The Orchadian

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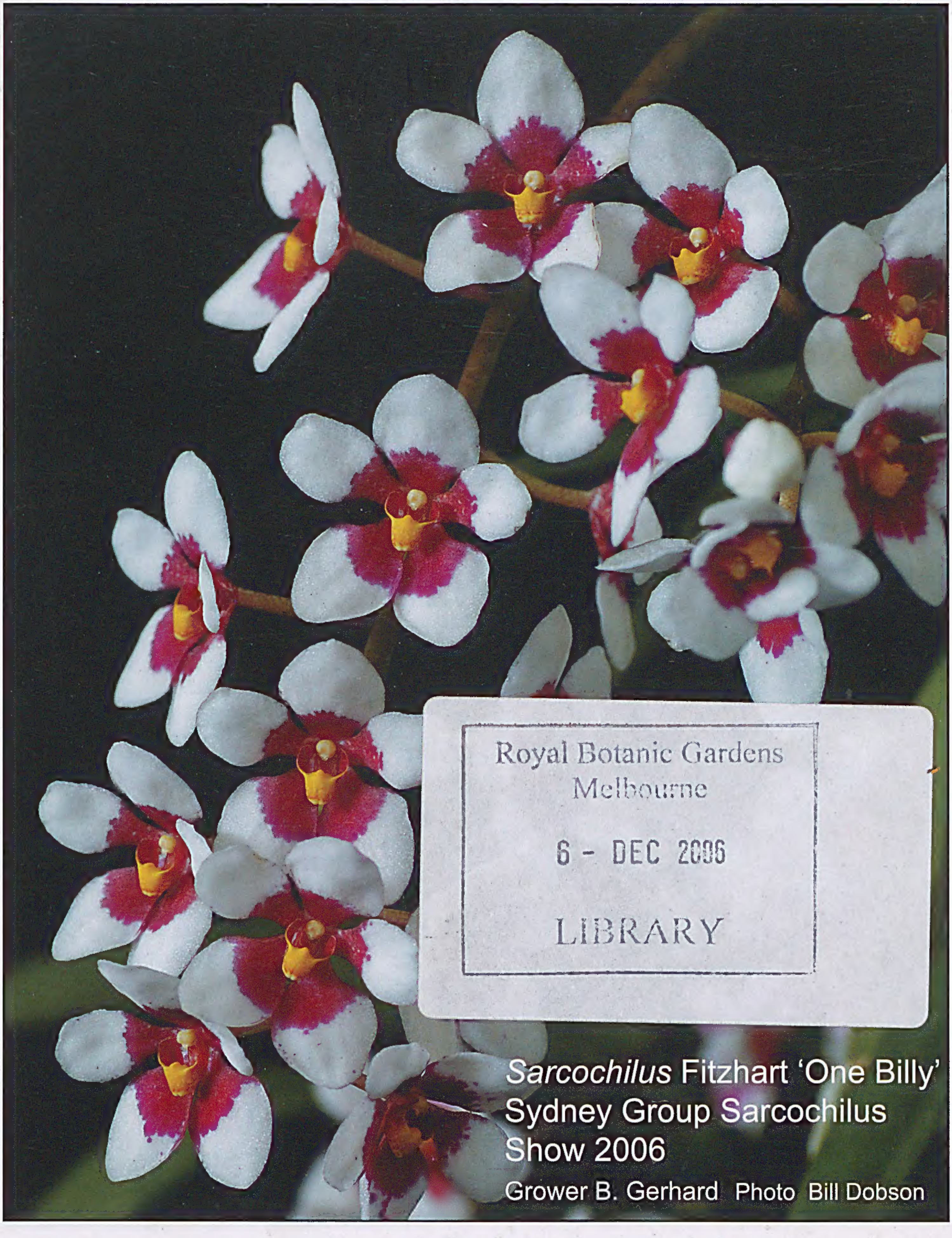

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Sarcochilus Fitzhart 'One Billy'
Sydney Group Sarcochilus Show 2006
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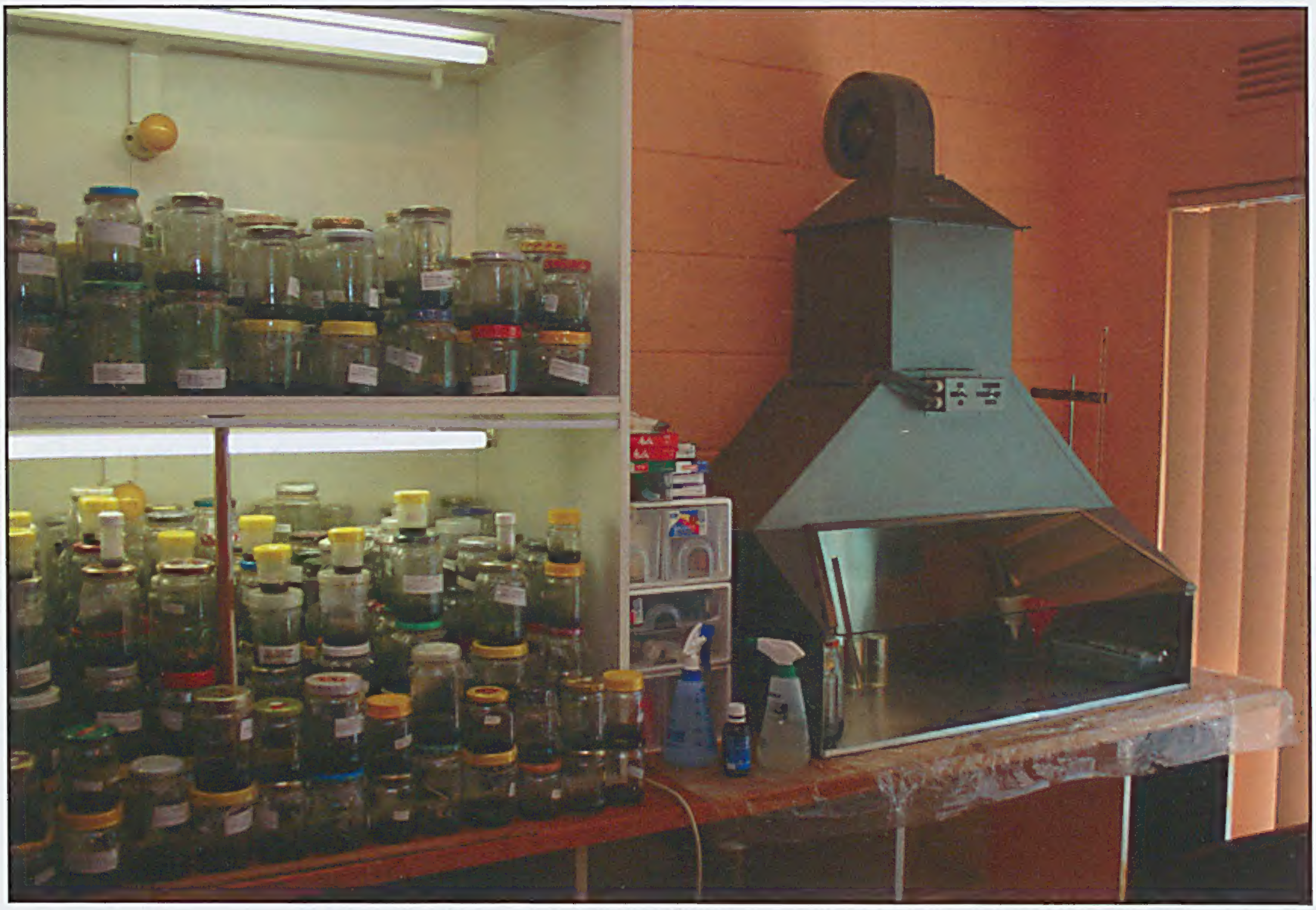

ANOS Victorian seed raising laboratory.

Installing a bollard at Baluk Willam Flora Reserve.

Weeding Watsonia at the Mornington Railway site, the area of *Diuris punctata*.

Weeding Panic Veldt Grass at the *Pterostylis cucullata* site.

Editorial

At the Annual General Meeting in 2006, our Patron Mr Walter T. Upton gave a short speech as he always does; and finished the speech with words along the lines of "at least now we have people studying our orchids". The past few issues have indeed shown this. Again we are confronted with the 'speciosum' dilemma. I have been asked "where does ANOS Council stand on this taxonomic situation". The Council neither accepts nor rejects name changes. ANOS promotes the study and conservation of Australian native orchids, and continues to encourage the study done by botanists, taxonomists and the orchid enthusiast regardless of which name they choose to use. The arguments which have split growers, both the botanist and the hobbyist, into "lumpers or "splitters" are compelling from both sides. Some of us use the "new" name and some prefer to use the "old" name, bottom line is we all seem to know what we are talking about anyway. It is a classic case of having to agree to disagree. The plant will still grow and flower the same regardless of the name on the tag. As Editor I will publish which ever name the author uses.

Jasmine Janes, a PhD student from the University of Tasmania, has written an article showing that these problems have been around for quite some time and is nothing new.

Gerry Walsh also gives some thoughts on the pros and cons in his article "A bit about . . . the big speciosum debate of 2006". Gerry uses the old romantic name of "Rock Lily". When my daughters were young they called them "Cheesy Orchids", the flower racemes reminding them of a pile of grated cheese, (well my Cheesy Orchids do). So we affectionately use this name in our house. It's still the same plant and we know what we're talking about.

I have published a paper in this issue which I believe I can claim as being the first Editor, of *The Orchadian*, to publish such an article. ANOS Victoria Group won the Prime Ministers Banksia Award for the Environment for their submission "Back from the Brink – saving Victoria's Threatened Orchids". This article outlines the work the group is involved with in conjunction with other authorities in conserving Victoria's rare and endangered orchids. I am sure all ANOS members join me in congratulating ANOS Victoria Group for their wonderful win.

Other articles from Colin Bower, who updates us on a hybrid *Diuris* he came across while up in the Barrington Tops, Ian St George from New Zealand writes about their amazing *Corybas* alliance and David Jones describes a new species from the Shoalhaven area. I have ended this issue with a couple of show reports and some wonderful photos of the orchids benched at these shows. There will be more show reports in the March issue. I feel that this again is another good issue, a bit for everyone.

The hobby of growing orchids has to be arguably one of the largest hobbies in the world. Generally the ease of growing and flowering these wonderful plants has enthralled humans for many centuries and will do so for many more centuries to come. I'm sure that studying orchids will also continue for this length of time so let's just enjoy the learning and understanding of these amazing plants; accept that we will have different points of view. The one thing I enjoy in being the Editor is the fact I am always learning something, as I hope you do too. It is a wonderful hobby.

Peter

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Monitoring and recording *Pterostylis despectans*. Photo Andrew Dilley

Left to right: Andrew Pritchard (Dept. of Sustainability and Environment-DSE), Adrian Moorress (DSE), Rob Cross (Royal Botanic Gardens Melbourne), Jenni Thomas (DSE), Karen Lester (DSE), Andrew Dilley (ANOS Victoria Group), Magali Wright (Melbourne University), Sue Dilley (ANOS Victoria Group).

ANOS Victoria wins Banksia Environmental Award.

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On the 22nd July 2006 I was privileged to attend the Prime Minister's Banksia Awards for the Environment, at Melbourne Park, as the representative of ANOS Victoria. It was a gala event which my wife and I attended as guests of the Department of Sustainability and Environment (DSE). We were already excited in the knowledge that we had been short listed down to six submissions across Australia in the category of Land and Biodiversity. We were completely overwhelmed when renowned primatologist Jane Goodall opened the judges' envelope and announced that "Back from the Brink – Saving Victoria's Threatened Orchids" was this year's winner.

Earlier this year Gary Backhouse from the Department of Sustainability and Environment decided that it would be a great idea for all organisations involved in the conservation of native orchids throughout Victoria to submit a collective entry in the 2006 Prime Minister's Banksia Awards. It was felt that this was appropriate as there are many government and voluntary organisations working collaboratively together on successful projects. The main participants in this project were DSE, Parks Victoria, Royal Botanic Gardens, Melbourne, Melbourne Zoo, Melbourne University, Victoria University, R.M.I.T. University and of course the Australasian Native Orchid Society, Victorian Group.

ANOS Victoria has been involved with orchid conservation in many ways. Our activities have included monitoring, searching, environmental management, weeding, associated species identification and mapping, translocation, growing orchids from seed, establishment of ex-situ populations, reintroduction into the wild and the promotion of awareness of our natural orchid heritage. Our aim is to try and reverse the plight of our native orchids, which are suffering from loss of natural habitat through development, land use changes and climate change

Some of our activities have included long term on-going projects, whereas others we have become involved on an as needed basis. All the conservation activities we have undertaken have included a close association with one or more of the organisations listed in the Banksia Award submission. We have always endeavoured to work with the relevant responsible authorities and local people on any projects. This ensures that we work within the parameters of recovery plans drawn up for the orchids and helps build up a network of contacts and trust in the people we work with.

One of our initial long term projects has been with *Prasophyllum suaveolens* (Fragrant Leek Orchid). This is growing in a small country cemetery in western Victoria. The local Cemetery Trust had been made aware of the existence of these orchids many years previously, but was not really aware of their significance. Over the years the management of the Cemetery Trust changed and gradually the orchids in the cemetery were forgotten about. Consequently the orchids were under threat from invading weeds, principally Watsonia and English Broom. Also the area was being mown regularly, particularly when the orchids were coming into flower. When we visited the site to see what needed to be done the population stood at only 39 plants.

This turned out to be a classic case of

coordination and cooperation with the relevant authorities. The Cemetery Trust managed the site and burial allotments. The local council were responsible for mowing which was undertaken by a private contractor. The site was also classified by the DSE as a native grassland remnant so they also had to be consulted regarding any works that were to be undertaken.

Over the years we have conducted regular monitoring, organised three controlled burns by DSE and the Country Fire Authority, hand weeded and applied herbicide. We also conducted a complete topographic survey of the cemetery and drew up plans for a safe mowing regime. This allowed the orchids to set flowers and disperse seed. Total numbers of individual plants recorded has risen to 277, with a maximum of 174 flowering plants being observed in a single year. This site needs to be regularly maintained as the Broom seed can remain viable in the soil for up to sixty years. Also the native grasses grow very vigorously, depriving the orchids of sunlight, so we will continue with follow up work at this site for many years to come.

Another long term project has been *Pterostylis despectans* (Lowly Greenhood). This orchid grows in the state forests of the central Victorian gold fields. We knew that the orchid was highly endangered and was under attack from White-Winged Choughs, a native bird that eat the tubers, as well as gold prospectors that work over the areas. At the time we took on this project there were only four known sites and the estimate of the total number of orchids remaining was presumed to be around 500 plants.

We began by establishing 3 monitoring sites, recording emerging, flowering and seed setting plants. We also embarked on a searching program to see if we could find new sites. Associated species surveys were undertaken at the known sites and this information was entered into the state's Flora information System (FIS). The FIS was then used to search for other potential sites where similar plants grew. Over the years through our searching we have now discovered over 30 individual colonies over a range of about 70 km. We count the plants at each of the known sites annually and have established that the numbers of known plants are around 4500. Although the numbers of known plants are growing each year, mostly due to finding new locations, our monitoring sites have not been fairing so well. The extended drought in the region over the past 6 years and the Chough attacks have seen the orchids at our monitoring sites decrease by an average of 12% per annum. We will be continuing this project for some time yet as we are keen to see what the effect will be when the drought eventually breaks in the area. As a backup we have a permit to collect orchid seed and material and are working on establishing an ex-situ population. We have discovered that the damaged orchid material left by the Choughs, which would normally dry out and die in the field, can be placed in a terrestrial orchid propagating mix and if kept moist will often grow a root and establish a new tuber.

Since establishing these two orchid projects our involvement with other projects has since snowballed. We assist the Melbourne Zoo which has established a large ex-situ population of *Diuris fragrantissima* (Sunshine Diuris), an orchid virtually extinct in the wild. We help the zoo deflask orchid seedlings, grow plants in our own collections so that the entire remaining population is not held at a single location and we assist with re-establishing new colonies in the wild by monitoring their progress and watering if needed.

The Victorian Road Authority (Vic Roads) has called us in to assist with the translocation of *Diuris chryseopsis* (Golden Moths) which were growing in the path of the Calder Freeway. Initially members assisted with the removal of the orchids from the site. Vic Roads then donated a shade house so that we could look after the plants over a two year period while a new secure site for the orchids was established. These orchids have recently been introduced to the translocation site.

Our members have been called in by local councils and the Ports and Harbours Authority to consult and assist with various site management issues where orchids grow. On the Mornington Peninsula members have been assisting the local council, Vic Roads and the local residents in weed management and searching for *Pterostylis cucullata* (Leafy greenhood). This orchid is particularly vulnerable as the region has become more developed and the orchids are now growing in isolated pockets throughout the housing estates. One of the aims of this project has been to determine the extent of the orchids and to educate the public as to their importance. This has involved door knocking by our members and entering private property to search for colonies. In general this has been embraced by the public and with the aid of GPS we have been able to build up a picture of the extent of the orchids. This has also resulted in a large rescue dig of approximately 2000 tubers from a development site, caring for them for 12 months and then translocating them to a new state park site.

We also assist friends groups and involve Field Naturalist groups in our activities, as locals can often keep a regular eye on sites that we cannot visit regularly. The DSE often calls upon us to assist with their conservation work and as a result of the success we have had with *Pterostylis despectans*, we now conduct similar monitoring and searching activities for several other endangered species. We now conduct annual monitoring and searching for *Pterostylis woollsii* and annual searches for *Caladenia concolor*.

Our group has been instrumental in getting approval and funding to erect fencing around orchid sites that were being degraded by 4WD vehicles and motor bikes.

What is now becoming a regular event on our calendar is spending a week each spring searching burns sites of the previous summer with DSE staff for vulnerable and endangered orchids.

Another essential part of being able to undertake orchid conservation is funding. Through grant applications and donations we have received around $45,000. This has been used for equipment, herbicide, fencing and caging materials, paying for controlled burns and to assist members with transport costs.

The close coordination and cooperation between all the groups and the success that we have had has culminated in winning the Prime Minister's Environmental Banksia Award for Land and Biodiversity. The Banksia Awards are Australia's most prestigious national awards for the environment and are keenly competed for by private, government and voluntary organisations.

What winning this award will mean for orchid conservation is still to be determined. It could improve our prospects of receiving increased government funding and the possibility of receiving the backing of private industry. After the presentation Jane Goodall was keen to see what her world wide conservation organisation could do in the way of assisting our project.

We certainly don't undertake the conservation work for the accolades. We do it because it is crucial work and for the love of our native orchids. However it is encouraging to receive recognition for what we have done as it will spur us on to continue doing this worthwhile work.

For further information about the activities of ANOS Victoria, or to download the Banksia Award submission titled "Back from the Brink – Saving Victoria's Threatened Orchids" visit our web site at www.anosvic.org.au

-oOo-

A short review on the history of orchid taxonomy.

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An Introduction to Orchids

The family Orchidaceae is one of the largest flowering plant families in the world and contains over 20,000 naturally occurring orchid species and approximately 10,000 man-made hybrids (Woolcock and Woolcock 1984; Dockrill 1992; Cameron *et al.* 1999; Bateman *et al.* 2003; Cafasso *et al.* 2005;). It is generally accepted that orchids have an ancient origin due to their close association with the Liliaceae, Iridaceae and Amarillidaceae families, all of which are monocots (Dressler and Dodson 1960; Schmid 1977; Dockrill 1992). Orchids are thought to have originated in Malaysia in the Cretaceous period and dispersed throughout the Tertiary period, becoming epiphytic in the Pleistocene (Schmid 1977; Dressler 1981; Janssen and Bremer 2004). However, evidence of these events is lacking, primarily due to a poor fossil record (Schmid 1977).

Today orchids have a cosmopolitan distribution, and occupy a wide range of habitats in most countries and climates, from Alaska to Macquarie Island in the Subantarctic (Hoffman and Brown 1984; Bates and Weber 1990; Rittershausen 2002). As a group, orchids are typically characterized as epiphytic or terrestrial. Taxonomically they are characterized by their floral and reproductive parts, both of which have evolved in strong association with insects (Dressler and Dodson 1960; Rupp 1969; Dockrill 1992). Orchids are incredibly diverse and have a highly modified floral structure that continues to fascinate botanists and enthusiasts alike.

History of Orchidology

The earliest European accounts of orchids date back to the ancient Greeks and Romans, when classification was based on a plants medicinal use. The Greeks and Romans believed that if a section of plant resembled a part of the human anatomy, then it could be used to heal that part of the body (Bedford 1969; St. George 1999; Rittershausen 2002). Orchids were considered an aphrodisiac because many flowers resembled various parts of the male and female anatomy, resulting in the application of ground orchid tubers as a form of aphrodisiac (St. George 1999; Rittershausen 2002). Effectively, this medicinal belief named the group, the word ‘orchid’ is derived from the Greek “orchis”, meaning testicles (Bedford 1969; St. George 1999; Rittershausen 2002). Later Europeans expanded on this title, often referring to orchid species as “fox stones” and “bull bags” (St. George 1999; Rittershausen 2002).

A fleeting interest in orchids began in 1521 when the Spanish discovered the Aztecs cultivating a species of *Vanilla* for their scented pods (Rosengarten 1969; Rittershausen 2002). However, it wasn’t until 1582 that the Spanish realised the value of *Vanilla*. For years, the Aztecs had been grinding the pods to flavour chocolate, a delicacy that had only just arrived in Europe (Rosengarten 1969; Rittershausen 2002). Europe’s interest in orchids increased throughout the 18th and 19th centuries, and orchids became a status symbol for the rich. As more species were discovered, the need for classification increased. The first systematic classification was developed by Linnaeus in 1753 and briefly described eight genera of orchids, of which 45 species were terrestrial (Bates 1990). The enthusiasm continued when the Kew Botanical Gardens received its first tropical orchid specimen in 1760 (Rittershausen 2002). By 1787 Kew had obtained a total of 15 exotic orchid species, although they failed to bloom until 1789 when *Epidendrum cochleatum* flowered (Reinikka 1972).

The first comprehensive guide to orchids was published in 1810, when Robert Brown wrote *Prodromus Florae Novae Hollandiae et Insulare van Diemen* (Bates 1990; Dockrill

1992). Brown briefly described many orchid species, including 26 Australian genera containing 114 species, and while the detail of Brown's descriptions were somewhat lacking, it remained the only guide available to enthusiasts for some years (Bates 1990; Dockrill 1992). However, a London nurseryman by the name of Conrad Loddiges contributed significantly to the description of new orchid species with the publication of his journal *The Cabinet* which began in 1812 (Rittershausen 2002).

A fundamental taxonomy, *The Genera and Species of Orchidaceous Plants*, was published by John Lindley in 1830 (Dressler and Dodson 1960; Dockrill 1992). Lindley was the first to divide orchid families into distinct tribes, recognising seven with further divisions (Dressler and Dodson 1960). Unfortunately, Lindley's classification of many species was deemed unintuitive and incorrect, thus Brown's classification remained in use (Dressler and Dodson 1960; Dockrill 1992). Ironically, it was around this time that the first conservation concerns were documented in relation to dwindling orchid stocks as a result of deforestation in Rio (Reinikka 1972).

By the 1850's orchidology had become well established with enthusiasts and botanists alike. Similarities between various species had become apparent and intense interest in the various reproductive strategies and floral modifications had developed (Fletcher 1969). In 1856 the first man-made orchid hybrid, *Calanthe dominii*, was cultivated at James Veitch and Sons nursery by John Dominy (Fletcher 1969; Reinikka 1972; Rittershausen 2002). The development of hybrid species was both positive and negative. On the positive side, it led to a greater understanding of relationships between species. However, Lindley conceded that the new wave of hybridisation would drive botanists wild, because it would also contribute to the taxonomic confusion surrounding the complex orchid family (Fletcher 1969).

Orchid Taxonomy

Taxonomy has always been a challenging field, relying heavily on specialists who do not always share the same theoretical or methodological point of view and are often forced to publish in obscure, little known journals (Charles and Godfray 2002). Our desire for a resolute order has resulted in taxonomists being criticised and grouped themselves, as "splitters", "lumpers" or "splimpers" (Dressler 1981). According to Dressler (1981) a "splitter" will assign specific status to everything, based on the theory that they may be different, whereas a "lumper" will hold specimens at arms length and declare them the same species if they do not notice a difference. Alternatively, a "splimper" is described as a curious creature that sees important differences in groups that interest them (resulting in splitting of that group), but will lump individuals from groups that are not of direct interest (Dressler 1981). Thanks to their notoriously bizarre and complicated floral structure, orchids have been, and continue to be, subject to splitting, lumping and splimping.

As mentioned, Lindley was probably the first to conduct a thorough taxonomic treatment of the Orchidaceae, dividing the family into tribes (table 1) (Dressler and Dodson 1960; 1981; Dockrill 1992). In 1854 Reichenbach expanded on Lindley's classification, but the categories were vague and the spelling and rank of many species was inconsistent (Dressler and Dodson 1960). The next major classification was published in 1880 by Swartz (Dressler and Dodson 1960; 1981). Swartz was the first to divide the orchids on the basis of a single or double fertile anther, and this character has become the foundation for the sub familial divisions used today (Dressler and Dodson 1960; 1981).

Bentham expanded on Swartz's treatment in his *Genera Plantarum,* published in 1881, by erecting five tribes and, for the first time, 27 subtribes (Dressler and Dodson 1960; Bedford 1969). In 1887, Pfitzer revised Bentham's system and concluded that there were in fact 32 tribes based on morphological features, which became the basis for Schlechter's 1926 treatment, *System der Orchidaceen*, recognising four tribes and 80 subtribes (Dressler and Dodson 1960). Schlechter's treatment remained popular for some years, until Dressler (1960; 1981; 1993) and Garay (1972) reviewed the taxonomy (table 1) (Dressler 1993).

Table 1. A comparison of some major systems of orchid classification (after Dressler 1981)

Lindley	Schlechter	Garay	Dressler
Family Apostasiaceae	Family Apostasiaceae	Family Orchidaceae	Family Orchidaceae
		Subfamily Apostasioideae	Subfamily Apostasioideae
Family Orchidaceae	Family Orchidaceae		
Tribe Cypripedieae	Subfamily Diandrae	Subfamily Cypripedioideae	Subfamily Cypripedioideae
	Subfamily Monandrae	Subfamily Orchidoideae	Subfamily Orchidoideae
Tribe Ophrydeae	Tribe Ophrydeae	Tribe Orchideae	Tribe Orchideae
			Tribe Diseae
		Subfamily Neottioideae	
Tribe Neottieae	Tribe Polychondreae	Tribe Neottieae	Tribe Neottieae
			Tribe Diurideae
		Tribe Cranichideae	Subfamily Spiranthoideae
			Subfamily Epidendroideae
		Tribe Epipogieae	Tribe Epipogieae
			Tribe Vanilleae
			Tribe Gastrodieae
Tribe Arethuseae			Tribe Arethuseae
		Subfamily Epidendroideae	Tribe Coelogyneae
Tribe Epidendreae	Tribe Kerosphaereae	Tribe Epidendreae	Tribe Epidendreae
Tribe Malaxideae			Tribe Malaxideae
Tribe Vandeae		Tribe Vandeae	Subfamily Vanoideae
			Tribe Polystachyeae
			Tribe Vandeae
			Tribe Maxillarieae
			Tribe Cymbidieae

So why is orchid taxonomy so difficult? Many of the boundaries between species, genera, and even some tribes are hazy (Dressler and Dodson 1960; Dockrill 1992). Whether this is due to mass extinctions creating gaps in the phylogeny, or recent and rapid evolution where species barriers are incomplete, or a distinct lack of extinction in an ancient group resulting in many morphological similarities, is still heavily debated (Dressler and Dodson 1960; Schmid 1977; Dockrill 1992; St George 1999; Janssen and Bremer 2004). However, it is clear that there are few infallible key characters to be found that distinguish groupings clearly, and those categories of circumscription that do exist, are constantly subject to different interpretations (Dressler and Dodson 1960; Dockrill 1992). It seems that Dressler (1981) may have been right when he declared that no classification of orchids will find universal approval, because those that disapprove will find a choice of alternatives in the synonymy of relevant taxa.

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Hybridisation between the Lemon Doubletail (*Diuris abbreviata*) and the Veined Doubletail (*D. venosa*) at Barrington Tops.

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Abstract

An occurrence of natural hybridisation between the Lemon Doubletail Orchid (*Diuris abbreviata* Benth.) and the Veined Doubletail Orchid (*Diuris venosa* Rupp) at the Barrington Tops, NSW, is described. The parents and hybrids were found in close proximity to each other with most of the hybrids clustered nearest to *D. abbreviata*. The hybrid's floral colouration, tepal morphology and flowering time were intermediate between those of the parents. Factors likely to limit hybridisation between *D. abbreviata* and *D. venosa* are discussed.

Introduction

The Doubletails or Donkey Orchids (*Diuris* spp.) are among the most attractive and conspicuous of Australia's terrestrial orchids. They may form colourful massed displays at favourable sites in good seasons. There is considerable variation in flower shape and markings within and between populations (Jones 1970a, b) adding to their charm. The heterogeneity in field populations is compounded by occasional natural hybridisation between species (Jones 1970a, b; Ulherr 1970; Beardsell 1975; Bates 1986; Jones 1988; Bower 2001). Some hybrids are distinctive enough to have been formally named, usually as species before their hybrid status was recognised. These include (Note: current names for species are used here, which may differ from those in the original manuscripts);

- *Diuris X palachila* – representing first generation (F1) crosses between members of the *Diuris maculata* and *D. lanceolata* groups (Jones 1970a, b). Plate 1 shows *D. X palachila* from the Mullion Range near Orange, NSW. The parents at this locality are *Diuris pardina* (Plate 2) and *D. chryseopsis* (Plate 3). *D. X palachila* is a fertile hybrid and may backcross extensively with its parents forming hybrid swarms (Jones 1970a, b, Beardsell 1975) containing forms intermediate between the original parents and *D. X palachila*. Plants resembling *D. X palachila* also result from crosses between *Diuris behrii* and *D. pardina* (Jones 1988).
- *Diuris X fastidiosa* – a cross between *Diuris palustris* and *D. chryseopsis* (Clements 1989).
- *Diuris X polymorpha* – a putative cross between *Diuris platichila* and *D. chryseopsis* (Clements 1989).
- *Diuris X nebulosa* – a spectacular cross between the golden-flowered *Diuris aurea* and the purple-coloured *D. punctata* (Jones 1991).

Several other putative *Diuris* hybrids have been reported in the wild, including hybrid swarms involving three parent species;

- *Diuris corymbosa X D. chryseopsis* (Ulherr 1970).
- Hybrid swarms involving crosses and backcrosses between *Diuris corymbosa*, *D. chryseopsis* and *D. pardina* (Bates 1986).
- Hybrid swarms between *Diuris maculata*?, *D. platichila* and *D. chryseopsis* (Messmer 1944 as interpreted by Bates 1986 and Clements 1989).
- *Diuris alba X D. chrysantha* (Jones 1988)
- *Diuris abbreviata X Diuris venosa* (Jones 1988).

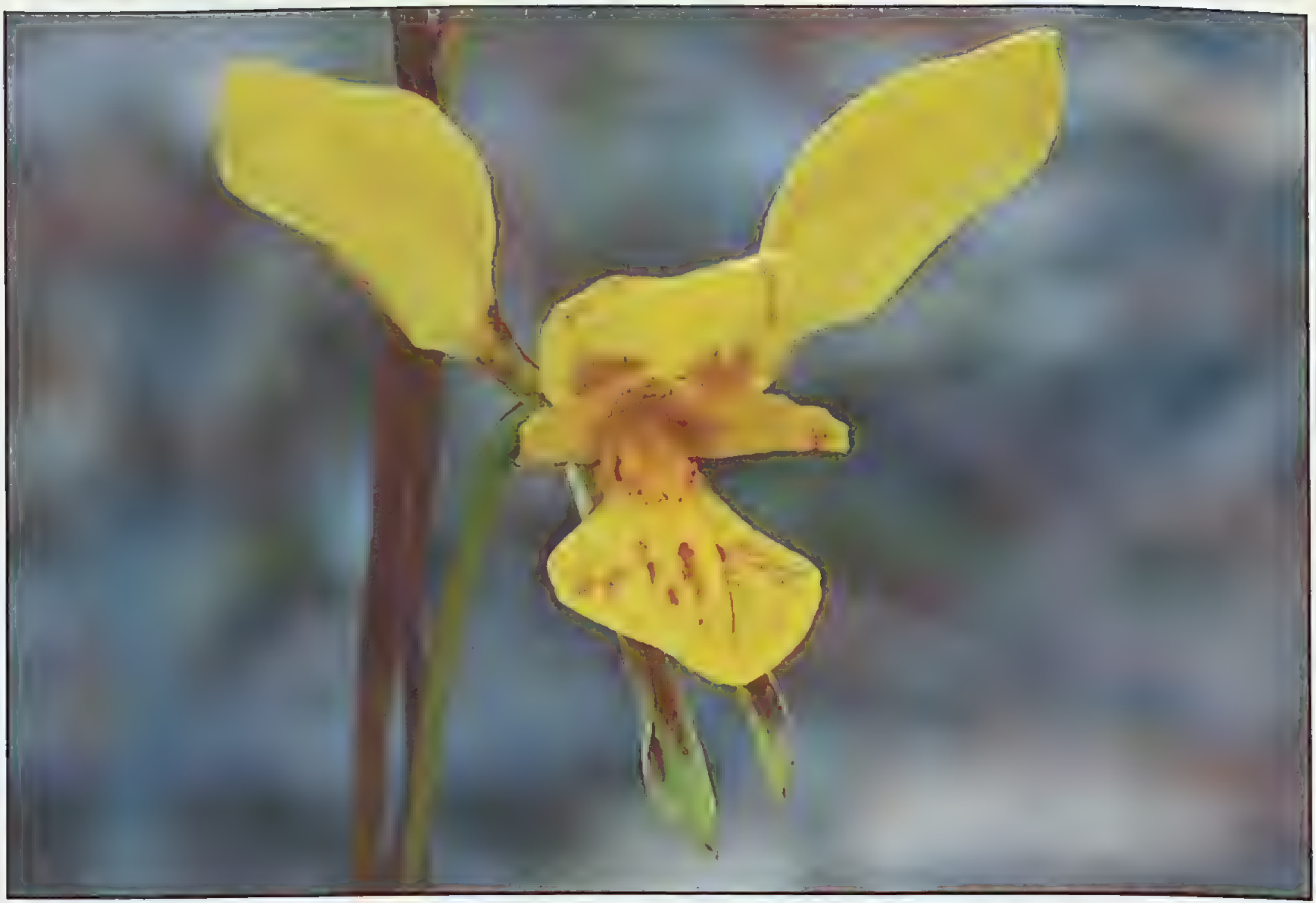

Plate 1. *D. X palachila* from the Mullion Range near Orange, NSW.

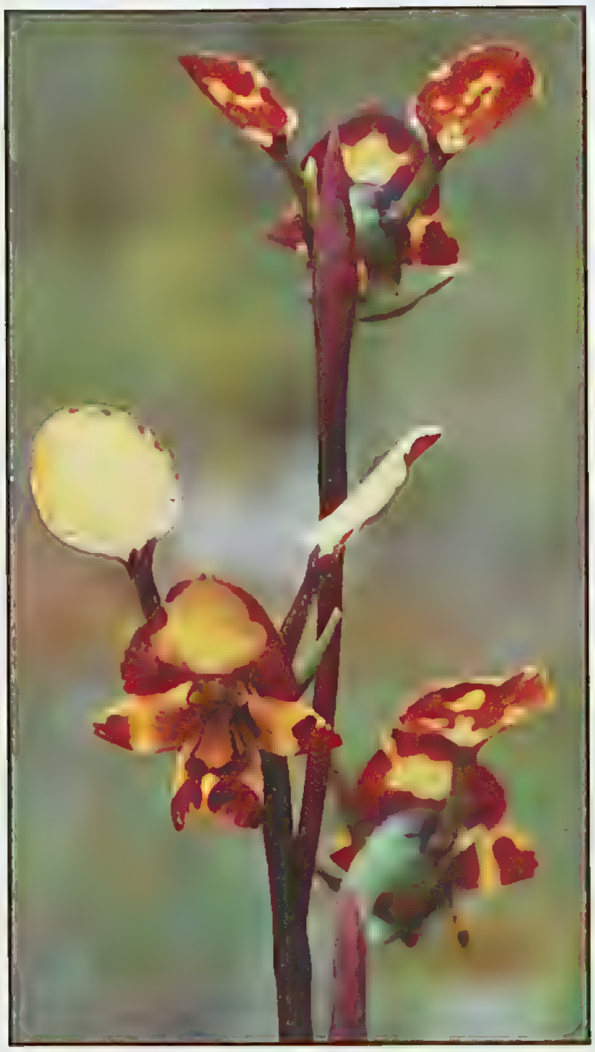

Plate 2. *Diuris pardina*
Mullion Range

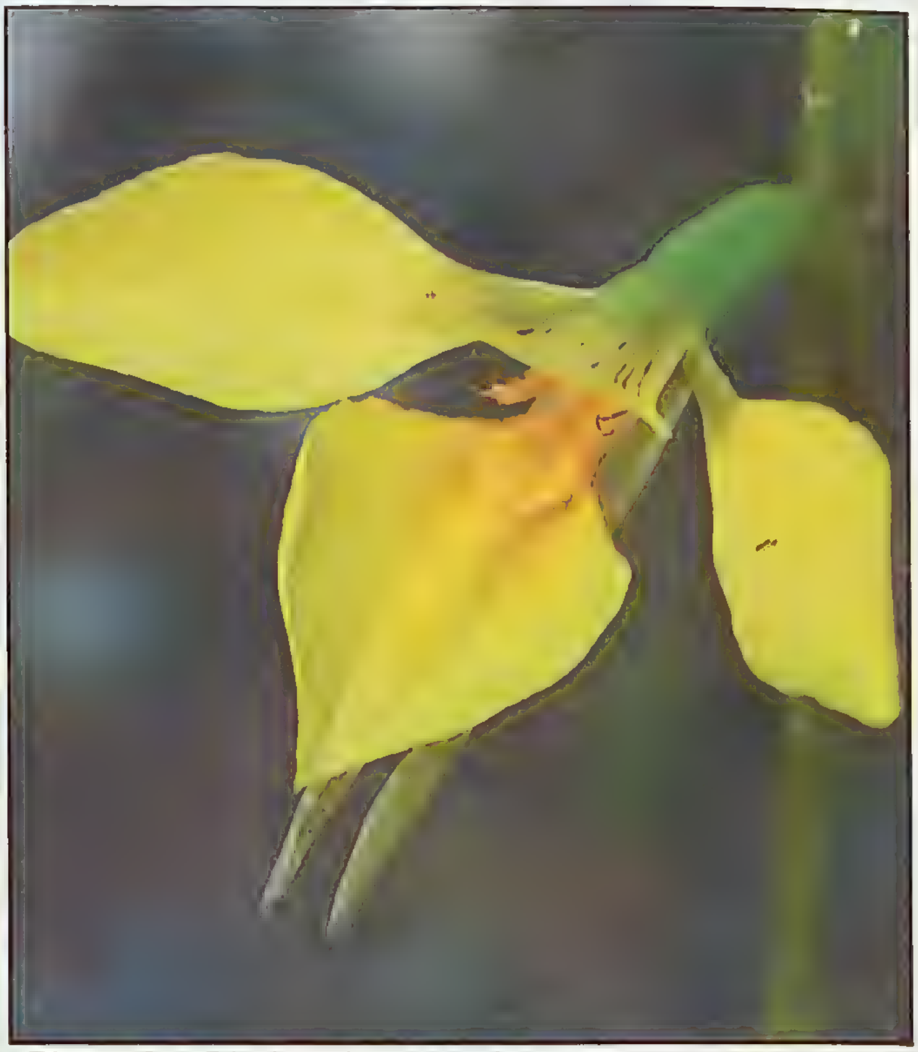

Plate 3. *Diuris chryseopsis*
Mullion Range

Photos Colin Bower

The last hybrid in the above lists appears only to have been reported in brief notes by Jones (1988). This article details an occurrence of this hybrid at Polblue Swamp, on the Barrington Tops in the NSW Hunter Valley.

Location and Habitat

The hybrid and its parents were growing amongst Snow Grass (*Poa sieberiana* var. *sieberiana*) and herbs (*Geranium* sp., Prickly Starwort (*Stellaria pungens*) and others) in grassy tall open forest dominated by Mountain Gum (*Eucalyptus dalrympleana*) and Snow Gum (*E. pauciflora*) between the Polblue Camping Area and Polblue Swamp. The following observations were made on 3 December 2005.

The parent plants and hybrids were all growing within a rectangular area measuring 7.5 x 2.5 metres. A total of twenty two flowering plants comprised 12 *Diuris venosa* (Plate 4), five *Diuris abbreviata* (Plate 5) and five hybrids (Plate 6). The long axis of the rectangle containing the plants was oriented approximately north-south.

All but one of the *D. venosa* plants were in the northern half of the rectangle and all but one of the *D. abbreviata* were in the southern half. Four of the hybrids were located closer to the *D. abbreviata* plants in the southern half of the rectangle than to *D. venosa*, while one was isolated in the northern half. The four hybrid plants in the southern half of the rectangle averaged only 0.53 m (range 0.17 to 0.85 m) from the nearest *D. abbreviata* plant and 1.34 m (range 0.74 to 1.78 m) from the nearest *D. venosa* plant. The distances of the hybrids from the two parents were significantly different (Student's T test, P=0.023). This result suggests that the mother plant(s) for the hybrids is more likely to be *D. abbreviata* than *D. venosa*, with the pollen coming from *D. venosa*, because seed is more likely to fall and germinate close to the mother than to the pollen donor.

Hybrid Characteristics

Diuris abbreviata and *D. venosa* are very dissimilar species, making the hybrid between them easy to identify. The most distinctive floral features of the parents and hybrid are summarised in Table 1.

Table 1. Differences between the Lemon Doubletail (*Diuris abbreviata*) and Veined Doubletail (*D. venosa*) Orchids and the hybrid between them.

Feature	***D. venosa***	***D. abbreviata***	**Hybrid**
Flower background colour	Whitish	Deep yellow	Pale yellow to cream
Labellum markings	Variable radiating purple veins	Small maroon marks on labellum lamina and base	Intermediate mauve/maroon markings on labellum lamina
Dorsal sepal markings	Variable radiating purple veins on the front of the dorsal sepal	Small maroon marks at the base of the dorsal sepal at the back only	Heavily marked on the back of the dorsal sepal
Petal position	Angled forward and down beside the labellum	Angled back away from the labellum	Angled out to the side, intermediate between the parents, but variable
Labellum shape	Triangular with a pointed apex	Oblong, wider than long with a blunt apex	Intermediate shape with a shallow pointed apex.

Table 1 and Plates 4 to 6 show that both the colour and shape of the hybrid floral segments are intermediate between those of the parents.

Phenology

The flowering time of the hybrid also lies between that of its parents (Table 2). On 3 December 2005 the hybrid was in full bloom with 15 flowers open (88%), two finished and no buds present. By contrast, most *Diuris abbreviata* flowers had finished with only six open out of 21 (29%) and no buds remaining. Flowering of *D. venosa* was later than for *D. abbreviata* and the hybrid; on 3 December ten flowers (40%) were still in bud and there were no finished flowers.

Table 2. Phenology of the Lemon Doubletail (*Diuris abbreviata*) and Veined Doubletail (*D. venosa*) Orchids and the hybrid between them (no. of flowers).

Flower stage	***D. venosa***	***D. abbreviata***	**Hybrid**
Buds	10	0	0
Open flowers	15	6	15
Closed flowers	0	15	2
Total flowers	25	21	17
% Open flowers	60.0	28.6	88.2
No. of plants	12	5	5
Average flowers per plant	2.1	4.2	3.4

Discussion

The photographs and observations reported above clearly show the existence of natural hybridisation between *Diuris abbreviata* and *D. venosa* at Barrington Tops. The hybrids are intermediate in form and colour between the parents, and have an intermediate flowering time. In common with most occurrences of hybrids in the genus *Diuris* (Jones 1970a, b, Bates 1986), the parent plants and hybrids in this study occurred in very close proximity to each other. There was no evidence of a 'hybrid swarm' involving crosses between the hybrids, or back to the parents, which might indicate that the F1 hybrid is fertile. However, the numbers of plants were too low to discount the possibility of F1 fertility and hence a capacity to form hybrid swarms.

The widespread, but relatively uncommon occurrence of hybridisation in the genus *Diuris* indicates pollinators occasionally move between species. The available evidence indicates that *Diuris* species are almost exclusively pollinated by small native bees (Bower 2001). The pollination mechanism has been clearly established for only the *Diuris maculata* species group, which has been shown to mimic 'egg and bacon' pea flowers (Beardsell *et al.* 1986) (Indsto *et al.* 2006). Members of the *D. maculata* group are pollinated by bees that specialise on red and yellow pea flowers as sources of nectar and pollen. It is unlikely that such specialists would be responsible for hybridisation between members of the *D. maculata* group and species belonging to other groups in the genus. The most likely scenario is that hybridisation in *Diuris* is mediated by more generalist bee species that forage on a wide variety of plants. The pollinators and pollination mechanisms of *Diuris abbreviata* and *D. venosa* are unknown. However, given the morphological

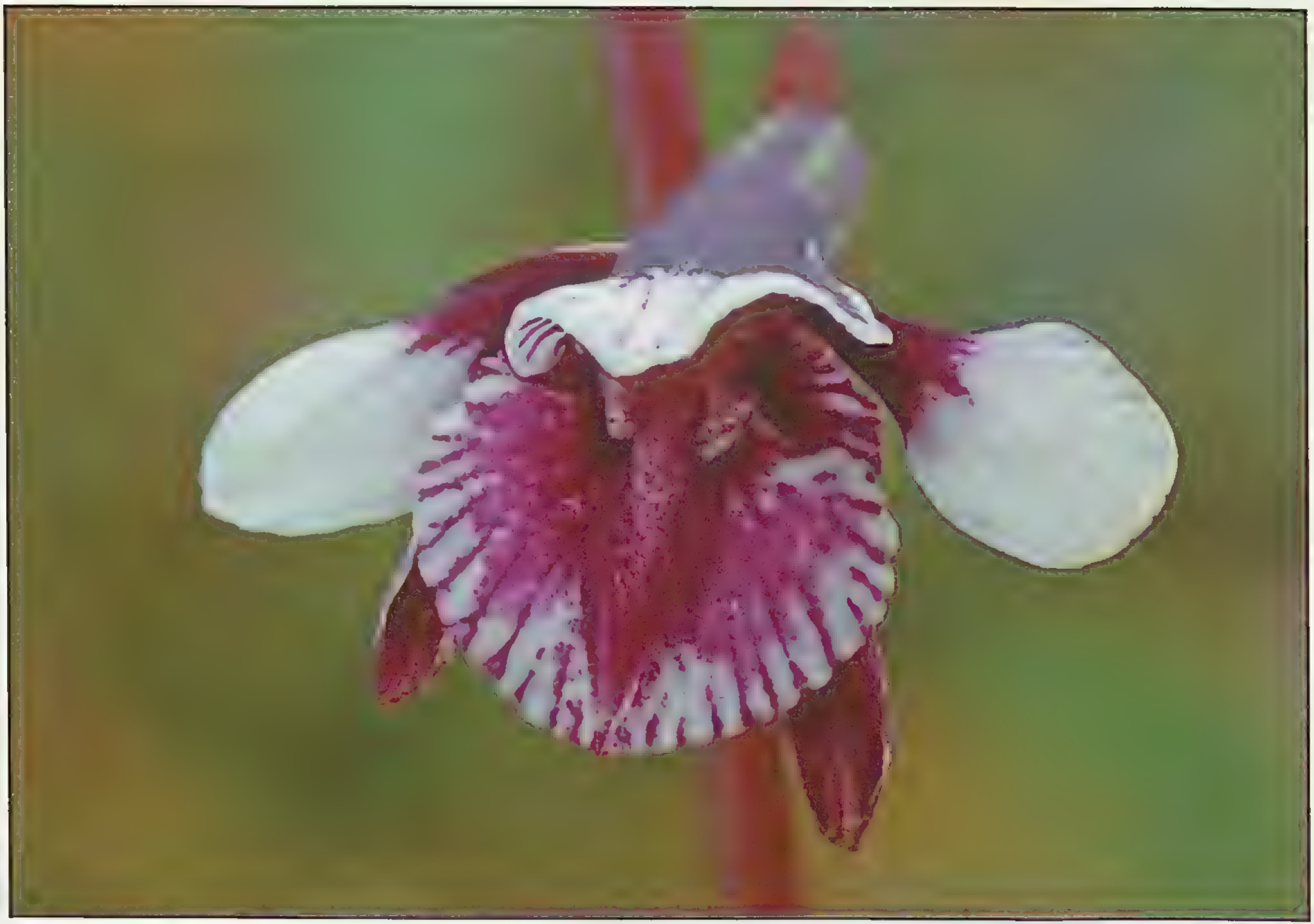

Plate 4. *Diuris venosa*, Polblue Camping Area, Barrington Tops, NSW

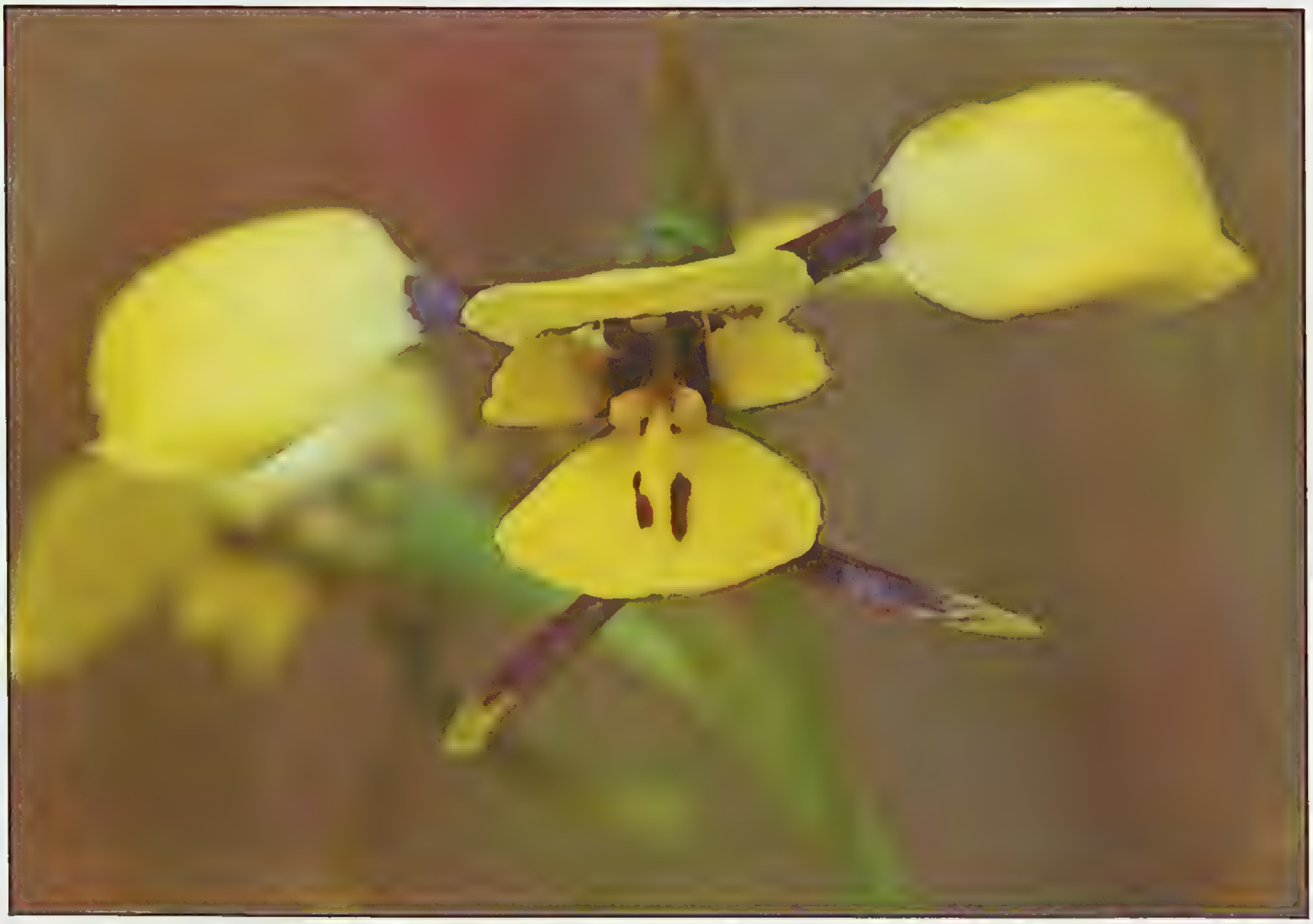

Plate 5. *Diuris abbreviata*, Polblue Camping Ground, Barrington Tops, NSW

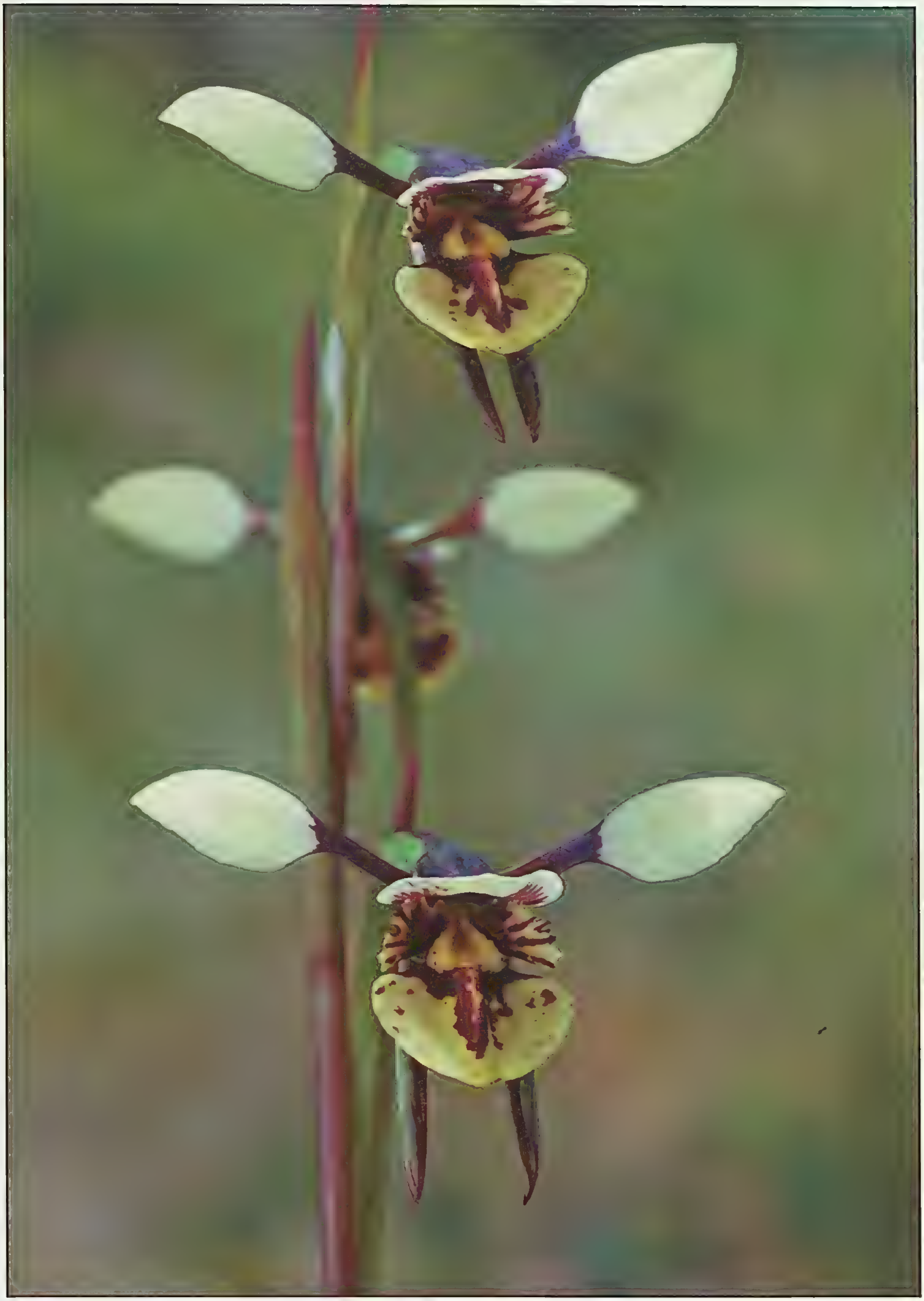

Plate 6. *Diuris abbreviata* X *D. venosa*, Polblue Camping Ground, Barrington Tops, NSW

Photos Colin Bower

dissimilarity of these two species, it is likely they are adapted to different bee pollinators and that hybridisation is mediated by other generalist bees that may only be occasional visitors.

Apart from pollinators, what other factors are likely to limit hybridisation and genetic introgression between *Diuris abbreviata* and *D. venosa*? Differences in the flowering times of two species may limit opportunities for hybridisation. In 2005 there was a strong overlap in flowering times, but this may vary between seasons. It is possible that in most years, *D. abbreviata* will have largely finished flowering before *D. venosa* starts. Sterility of the F1 hybrid would also limit introgression (Jones 1988). There is much still to learn about hybridisation in *Diuris* that will require detailed study of pollination in all the species groups.

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ANOS Kabi Group Show Report.

The annual Kabi Show was held on the weekend of 25 - 26 August at the Lions Hall, Pine Rivers Showgrounds, Lawnton and was a wonderful success.

This year, a couple of new initiatives were introduced. A continuous slide show of nearly 200 epiphytic and terrestrial orchids was on display at two areas within the hall. Each slide changed every 7 seconds and included among the orchid slides were a number of short advertisements giving information about the Kabi Group. The slide show attracted a great deal of interest over the two days and a number of DVD's were burned and sold with the proceeds going to Kabi.

This year a concerted effort was made to sell sponsorship for the show. This was so successful that all classes were fully sponsored before the start of the show and the non cash sponsorships that were surplus were disposed of in spot raffles. I thank all sponsors, both commercial operators and members of the Kabi Group, for their support. All sponsors were publicly acknowledged by large notices around the hall.

We also had visits from ANOS (Qld) Gold Coast Group, the Native Orchid Society of Toowoomba and the Bundaberg Orchid Society. All of these Societies commented on the wonderful display of Australasian Native Orchids and thought the slide show was quite an imaginative addition.

I'd like to especially thank NOSTI for their support. The Society benched more than 40 plants with two of their members leaving Toowoomba very early on the Saturday morning, travelling about 180 km to have their plants benched prior to judging. As a matter of fact, Nev Rosenberger, President of NOSTI won the Champion Specimen of the show.

As usual, we had a wonderful display of *Dendrobium speciosum* as can be seen by the attached photographs.

No show is successful without a lot of hard work by many people. This was again evident with members working long hours doing all the things that need to be done such as manning the kitchen, benching plants, selling raffle tickets, collecting admission money, judging, recording results, printing certificates and in general providing security for the benched plants. We also have a solid core of commercial people who have supported us for the 9 years the show has existed. The resounding success of the show was due to the great teamwork of both Kabi members and the commercial exhibitors. This was further demonstrated by the fact that 24 people sat down to dinner at the Lawnton Tavern on Saturday night.

Eddie Boudette

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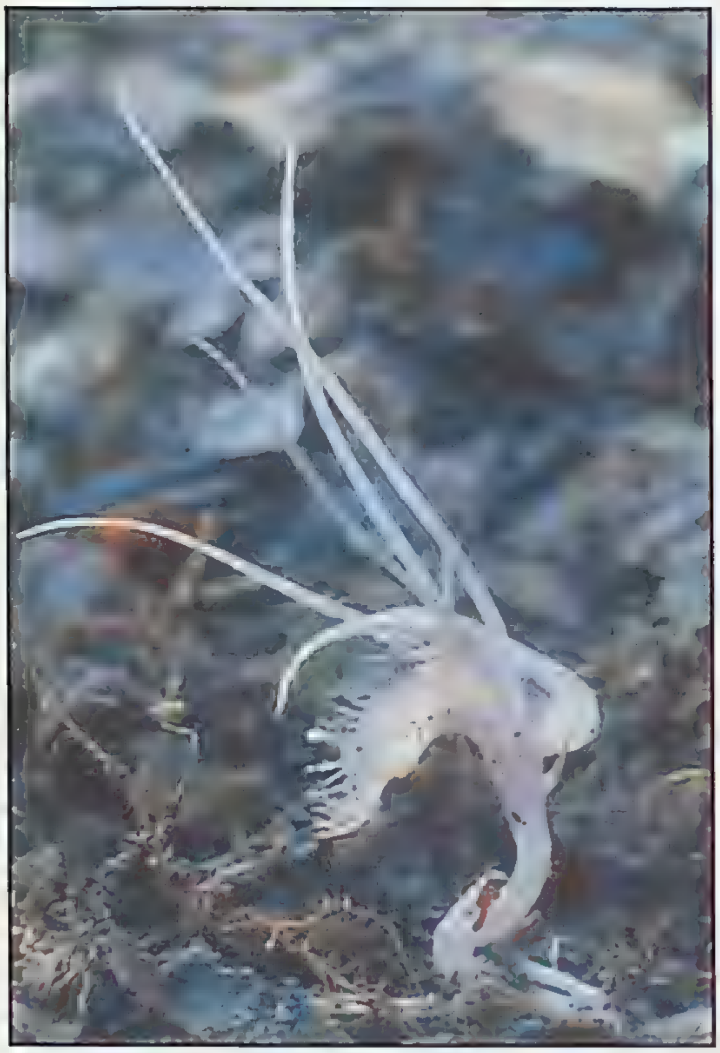
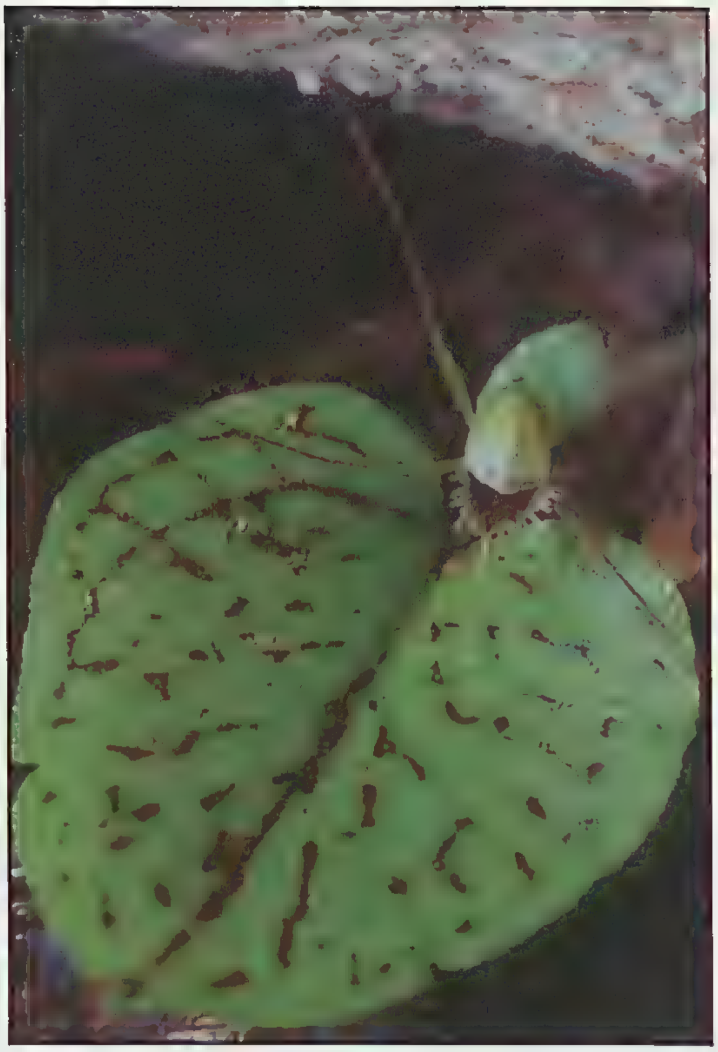
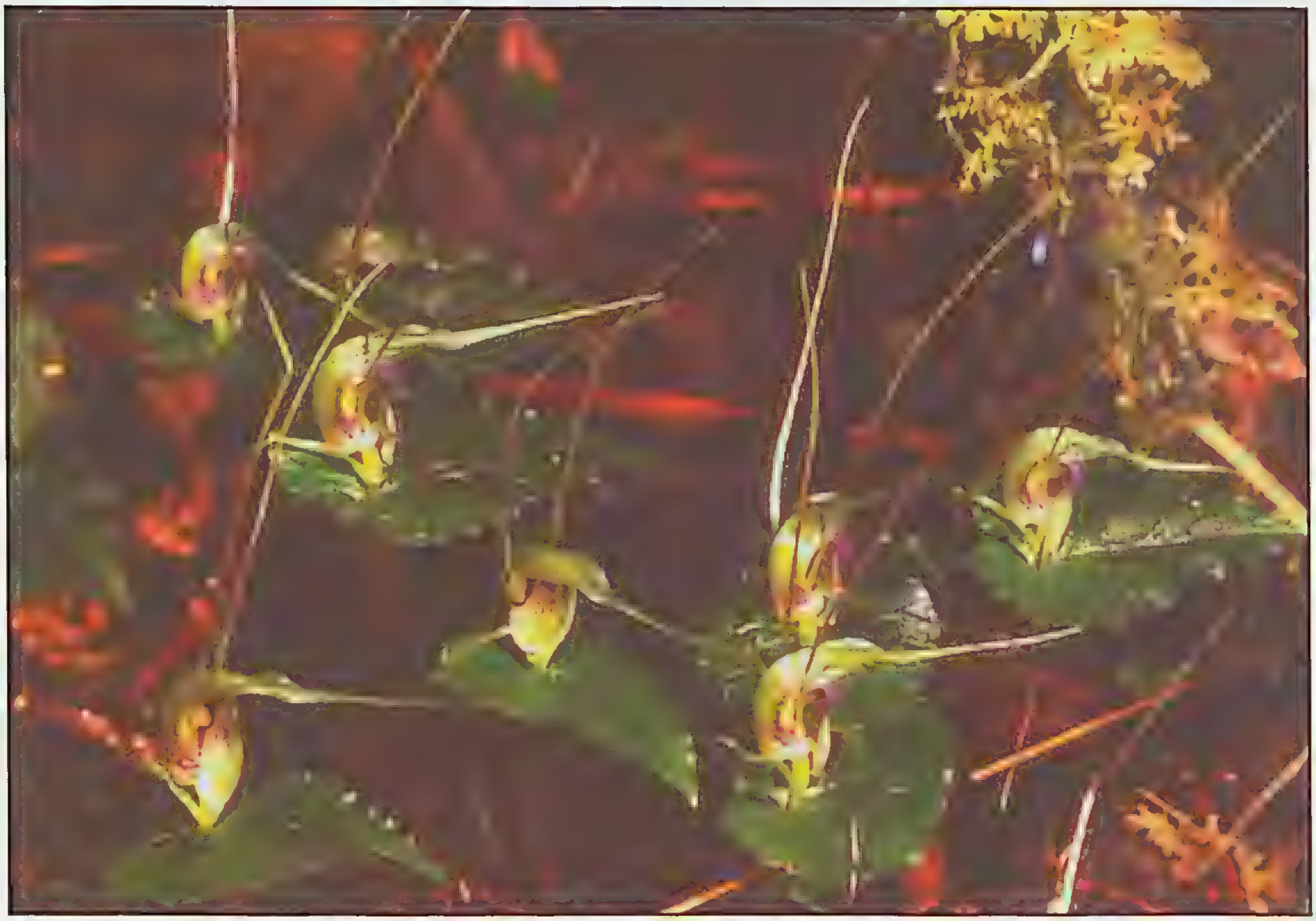


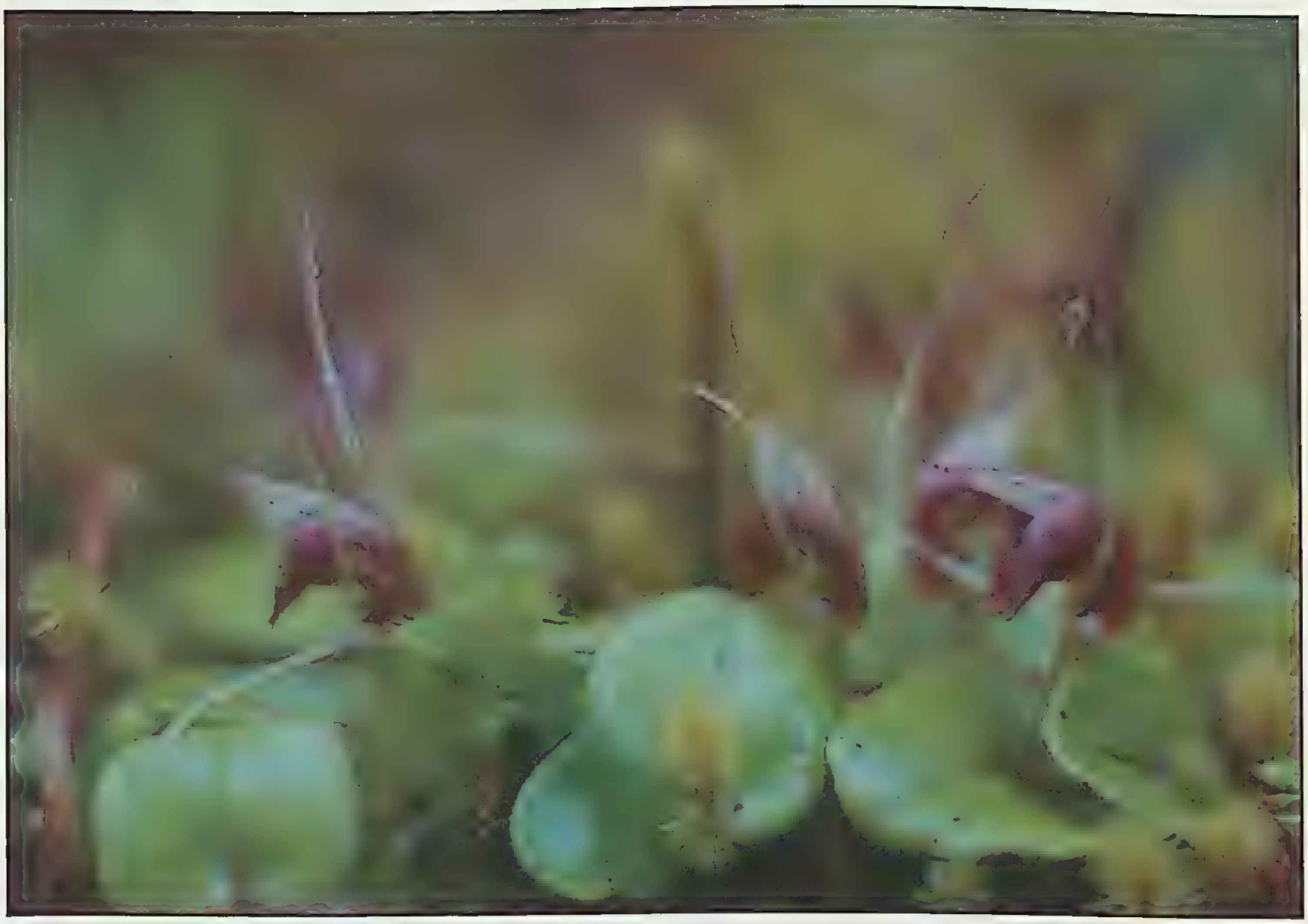
Molloybas cryptanthus



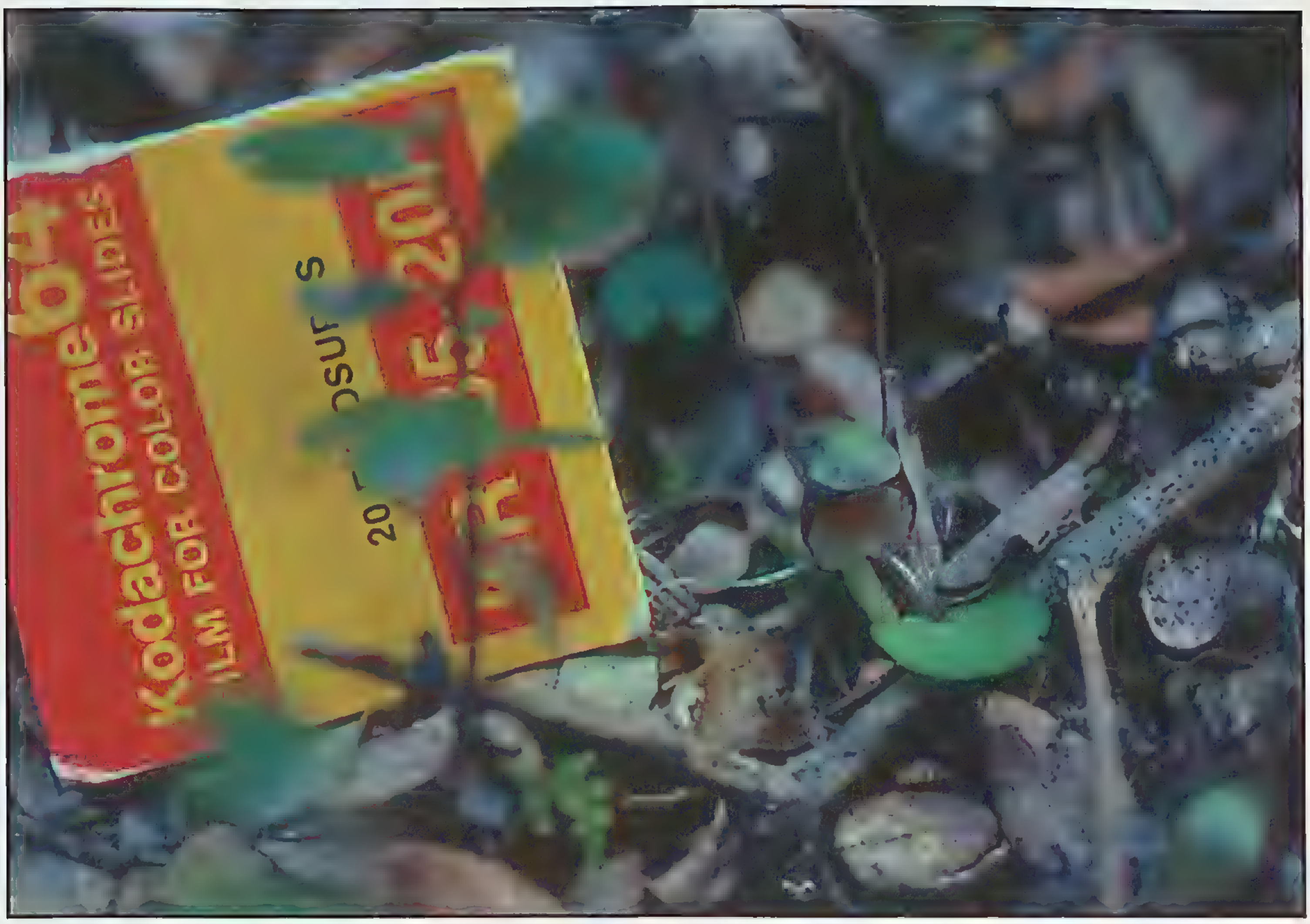
Singularybas oblongus Photos Ian St George



Nematoceras acuminatum Photo Bob Goodger



Nematoceras rivulare



Nematoceras affin. *trilobum* Photos Ian St George

The *Corybas* alliance in New Zealand.

Ian St George
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Wadestown,
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New Zealand

The great NZ orchidologist Brian Molloy has famously said that New Zealand is a botanical colony of Australia. Certainly if an Australian were to visit us they would find familiarity in many of our orchids – originating from a common Gondwanan ancestor, or zipping across the Tasman on the west winds, the light seed first perhaps borne high by the heat of your bushfires.

It is still going on: a comfortable colony of *Chiloglottis trapeziformis* was recently found in an exotic pine forest, the trees planted 30 years previously on inhospitable sand dunes on our west coast. Spread was vegetative and local, because few plants set seed: the pollinator had not come over with the orchid.[1]

What is special about the NZ orchids then? First, something like two thirds of species are self-pollinating, a situation almost unique in the world (Iceland has a similar proportion, but it has only eight orchid species). There is insular endemism of course: there are seven monotypic genera found only in NZ – *Aporostylis, Danhatchia, Ichthyostomum, Molloybas, Singularybas, Waireia, Winika* – but all the large genera except one have more representatives in Australia. Of course in those genera there are many species found only in NZ.

That one large NZ genus is *Nematoceras* ("thread-horn"). JD Hooker described *Nematoceras macrantha* in his 1853 *Flora Novae Zelandiae,* but after comparing the plant with similar long-tepal plants from Malaya, reassigned it to the inclusive genus *Corysanthes* in 1864. A celebrated wrangle about precedence and cheating (so, you may ask, what is new?) then resulted in the use of *Corybas* as the inclusive genus, and so it stayed until 2002 when *The Orchadian* carried a paper by Jones, Clements, Sharma, Mackenzie and Molloy, segregating the Australian and NZ *Corybas* into six genera on structural and molecular analyses: *Anzybas, Corybas, Corysanthes, Molloybas, Nematoceras,* and *Singularybas.* Malesian plants were referred to *Calcearia* (long tepals) and *Gastrosiphon* (short).[2]

NZ has no *Corysanthes,* and you are familiar with *Anzybas* and *Corybas* (in the new narrow sense) from very similar Australian species in those genera. It is the long-tepal members of the *Corybas* alliance that are so fascinating.

Molloybas (*Molloybas cryptanthus*)

This is named for Brian Molloy. The plants lack chlorophyll even in the bract-like leaf. The flowers are translucent, usually red flecked, with long filiform tepals, the petals longer than the lateral sepals, the labellum margins deeply lacinate. They are often completely buried in tea tree or beech debris or moss. The habitat is lowland to subalpine, often with *Nematoceras trilobum* or *Corybas cheesemanii.* Flowering is July to September. They are distributed from Three Kings Islands to North and South Islands. Conservation status: not threatened. The emerging, leafless seed stem doubles over like a sprouting bean, straightens up when above the surface, and reaches 200mm above the litter in November to December.

Singularybas (*Singularybas oblongus*)

Probably not as singular as its name implies, for there seem to be several distinct taxa in this entity. It is easily distinguished by the pale, fimbriate edge and toothlike apiculus on the dark crimson labellum and the thin, undulate to smooth edged leaf, varying from green to purple-veined to purplish. Big specimens may have a second flower. It favours forest floor, clay banks and sandstone or limestone bluffs usually in moderate shade. Lowland to montane. Flowers September to November. Distribution: Three Kings, North, South, Stewart, Chatham and Antipodes Islands. Conservation status: not threatened.

Nematoceras

There are nine recognised named species in NZ, another on Australia's Macquarie Island, two old names of uncertain application, and a swag of undescribed taxa, many falling within one or other of the named species. When you hear of *Nematoceras trilobum,* or any other orchid for that matter, being a "variable species", having "a long flowering period", showing "great within-species variation", and growing in a "wide range of habitats" you can safely bet more than one taxon is being included under that name. There may be 25 taxa currently included in what we are now calling the *Nematoceras trilobum* aggregate. (JD Hooker was wrong and Kew has determined that *Nematoceras* is a neuter Latin noun, so all the specific epithets have had to be changed).

All have a relatively long dorsal sepal, long filiform lateral sepals and petals held more or less erect, short, broad, open labellar auricles, and a short squat column. Most appear to be insect pollinated, several are fragrant to human noses, and fungus gnats (*Mycetophilae*) have been observed pollinating or visiting several species. Putative hybrids between several pairs have been found in the wild.

Possibly insects are attracted from afar by fragrance, are guided to the flower when near by the tepals acting as "pollen guides", see the galea in reflected light or ultraviolet as a target, and are rewarded from what may be a nectar-rich *tabula infrastigmatica.*

Nematoceras acuminatum

The leaf is sessile, triangular, pointed with wavy margins and reddish veins. The flower has long tepals and a very long dorsal sepal. Habitat: lowland to subalpine; damp, shaded, mixed forest. Flowers September to December in the far south. Distribution: North, South, Stewart, Chatham, Auckland Islands. Conservation status: not threatened.

The rivulare group [3]

N. iridescens, N. longipetalum, N. orbiculatum, N. rivulare and *N. papa* and a range of undescribed taxa, all have broad, pointed dorsal sepals, short leaf stems so that the flower is above the leaf, and pointed labella. All have oval or round leaves (sometimes pandurate, sometimes apiculate). Macquarie Island's *N. dienemum* belongs to this group.

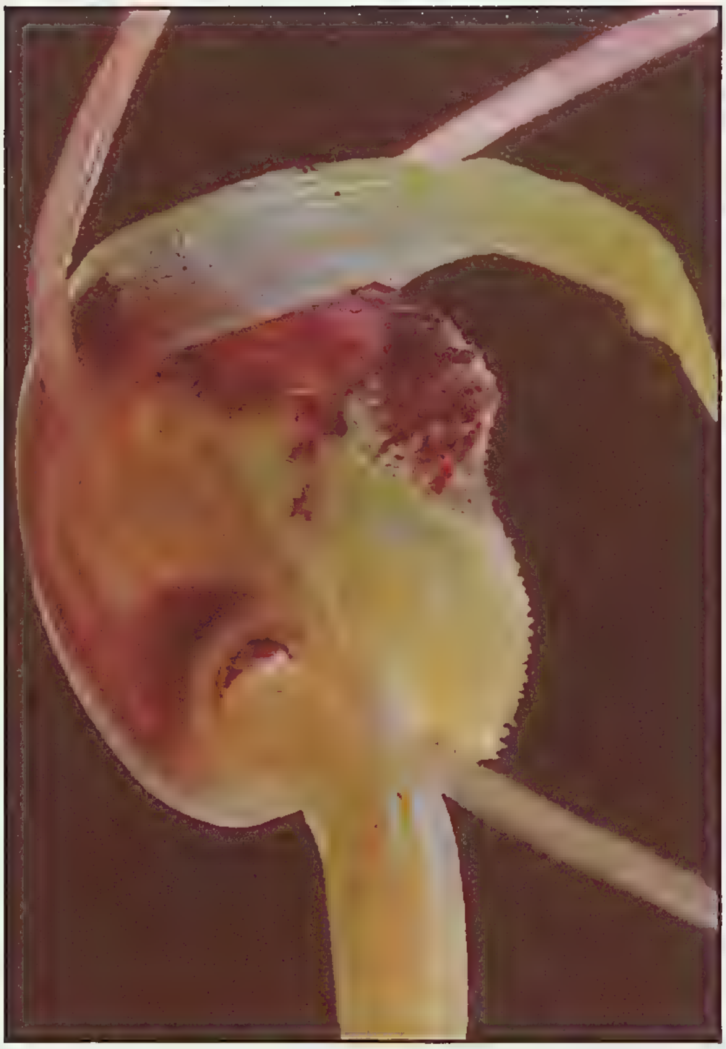
The macranthum group

N. hypogaeum, N. macranthum and *N. trilobum* and a lot of unnamed taxa have variable leaf stems, so the flower may be above or below the leaf, and labella that are variously fringed, ragged, entire, notched or finely apiculate. The dorsal sepals of the *trilobum* group, which includes *N. hypogaeum* and the recently discovered *N. sulcatum* from Macquarie Island, are short and almost always round (finely apiculate in some taxa), and those of members of the *macranthum* group are long, narrow and pointed.

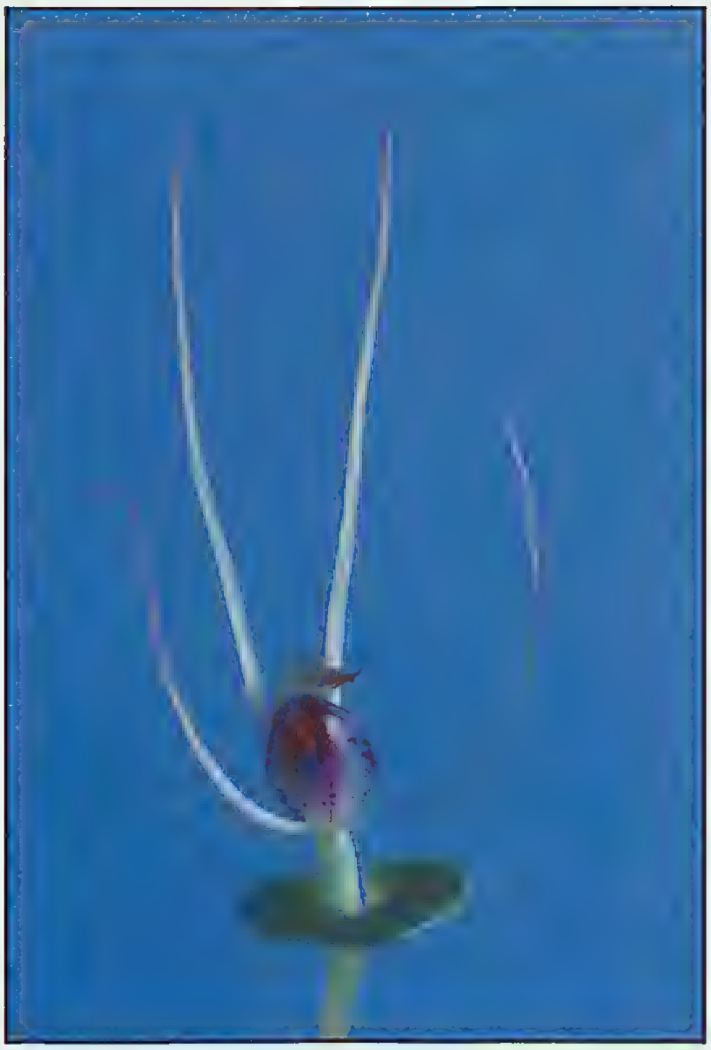
What we do not know

Dransfield, Comber and Smith wrote in 1985,

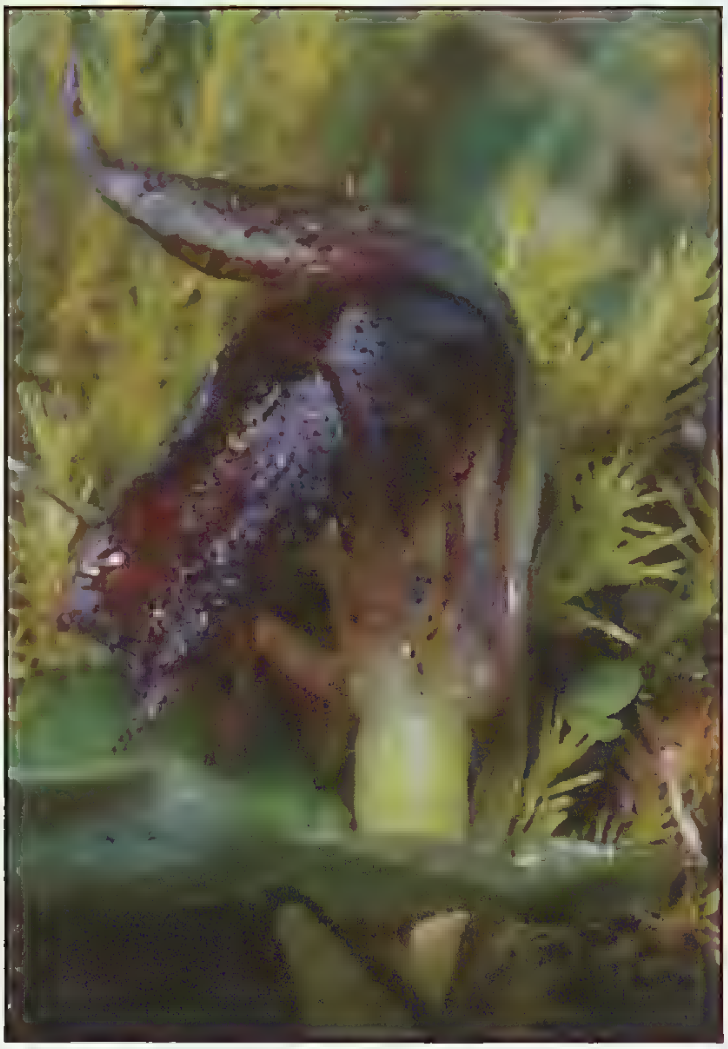
> *Hunting for Corybas is an exciting pastime… . Often two neighbouring mountain peaks will carry completely different species of Corybas; sitting exhausted on the summit of a peak in Borneo or Sumatra and looking at high ridges and peaks leading off in all directions, we have often imagined the wealth of new records and taxa that must be waiting to be discovered… So we expect*



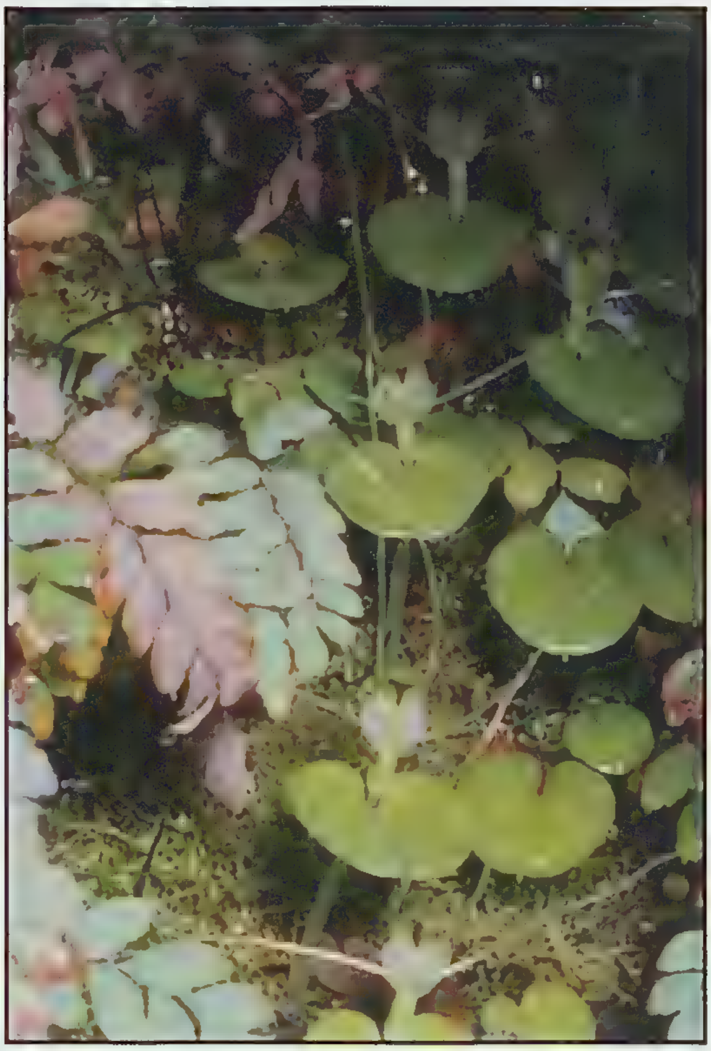
Nematocerus aff. *rivulare* 'Whiskers'
photo by Bruce Irwin



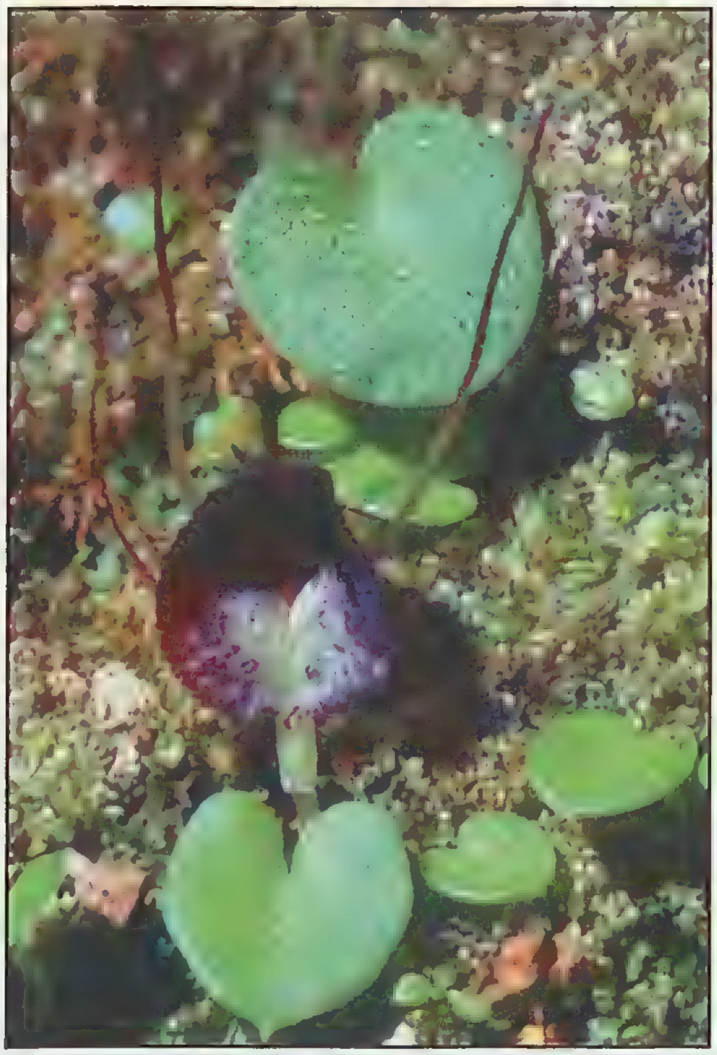
Nematoceras longipetalum



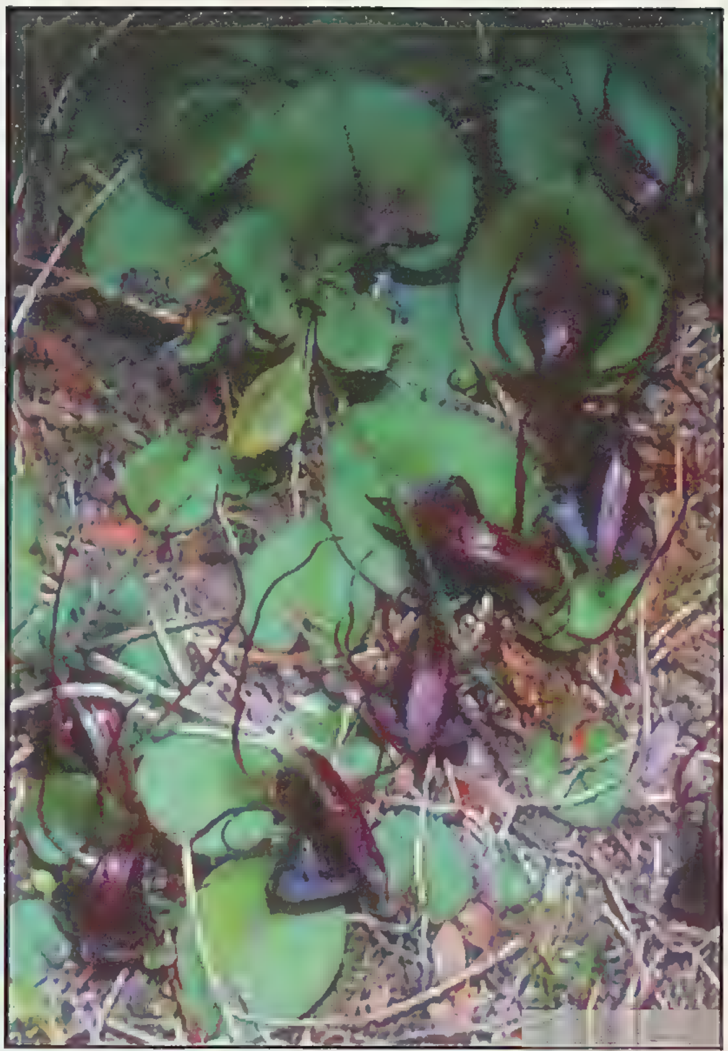
Nematoceras orbiculatum



Nematoceras papa Photos Ian St George

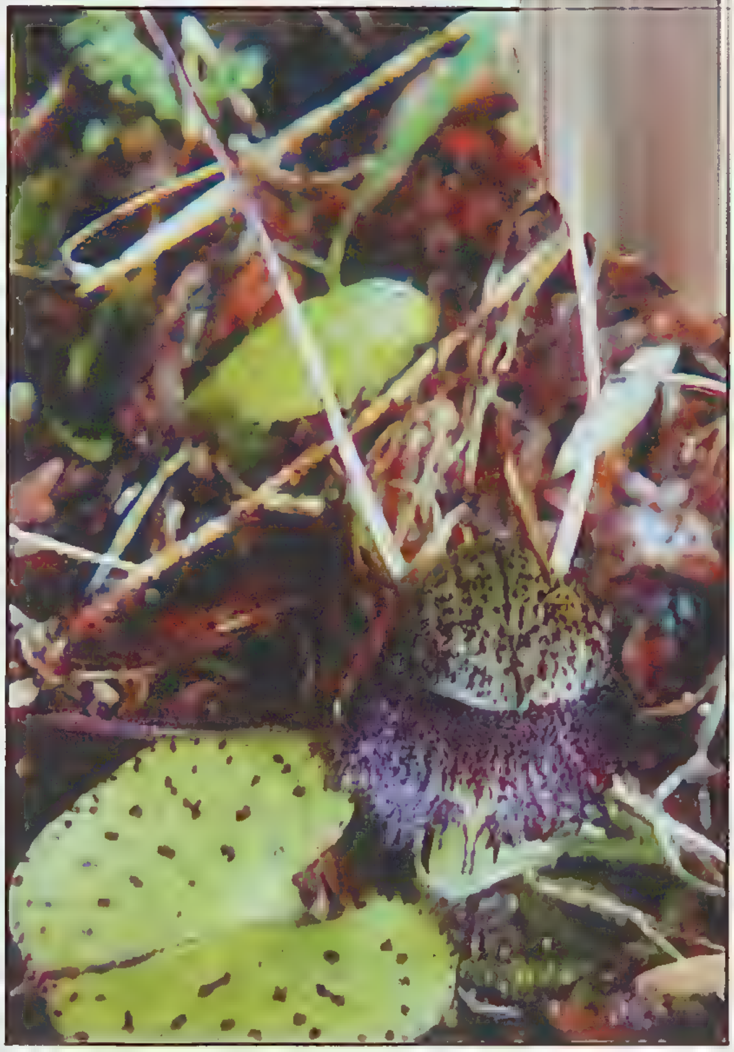


Nematoceras macranthum



Nematoceras macranthum (colc

Nematoceras aff. *trilobum*. Trotters Gorge



Putative *N. iridescens* X *N. trilobum*

Photos Ian St George

that as mountains are explored, new records and new taxa will be discovered and, we hope, greater appreciation of variation will be built up. [4]

Hunting for *Nematoceras* in well explored New Zealand has been a no less exciting pastime these recent years. Often two neighbouring localities will carry completely different taxa in the *Nematoceras trilobum* aggregate. Sometimes we become exasperated with the splitters, but sometimes we also recognise, as we become familiar with their putative new taxa, that the eye of the splitter is a often a keen and sophisticated eye, and we too gradually become convinced of differences. Sometimes there seem to be no structural differences between taxa whose flowering period and habitat vary widely. Sometimes similar but consistently different plants flower side by side.

We await the imminent results of molecular analysis of our unnamed taxa with eager anticipation.

Acknowledgement

I am grateful to ED Hatch and JB Irwin, co-authors of *Field guide to the New Zealand orchids,* for allowing me to use the species descriptions from that book.

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A Bit About . . . The Big Speciosum Debate of 2006.

Gerry Walsh
sueandgerrywalsh@netspace.net.au

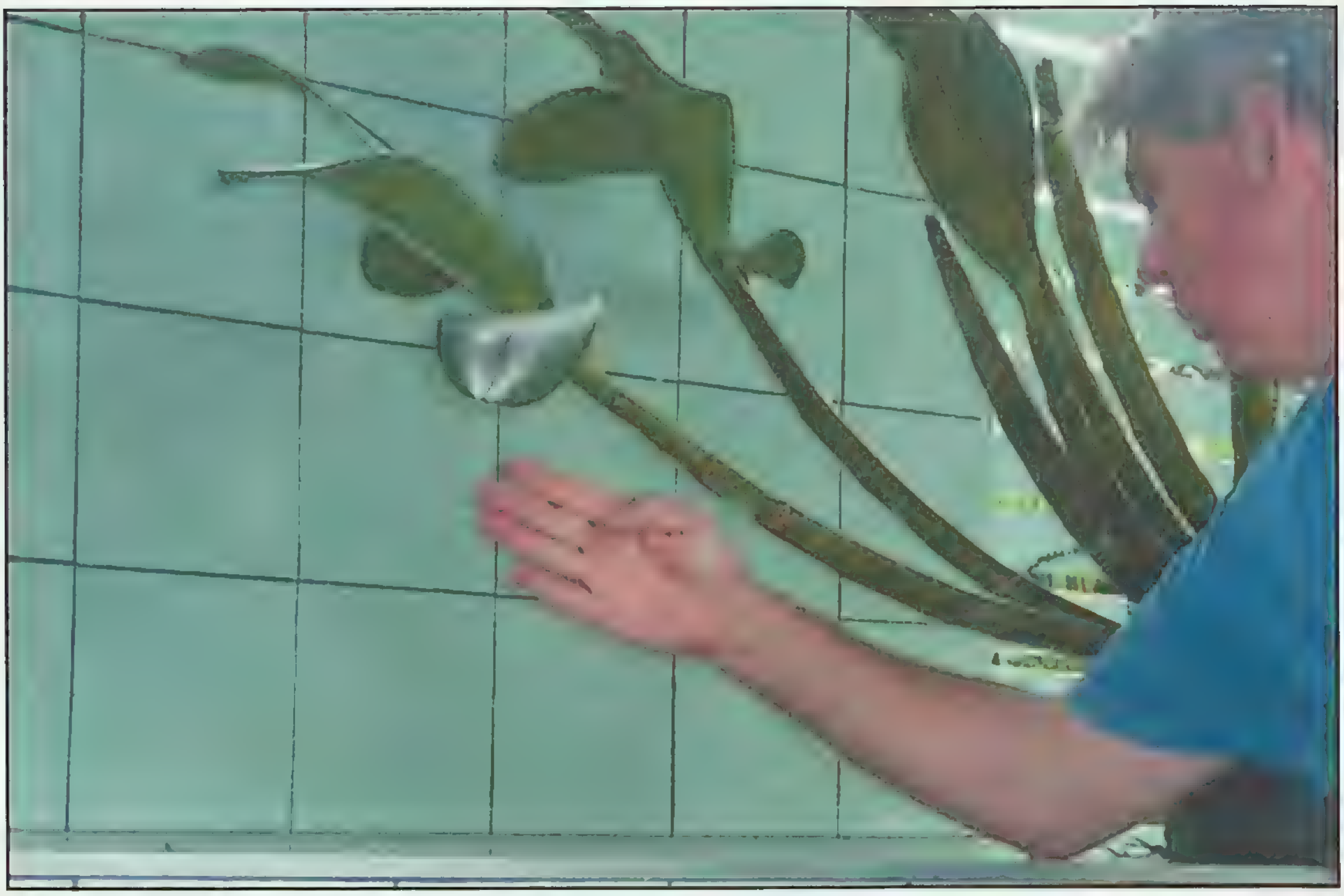
Little did I know 30 years ago that in 2006 I would be sitting down at a computer tapping out an article on *Dendrobium speciosum*. But there was a very definable moment way back then that led me inevitably to this point in my life. I bought my first house in August 1975. In the front yard there was a sunken courtyard filled with sun-bleached bush rock and some very dead Philodendrons and Elephant Ears etc. I doubt they were ever looked after. What would any young first home owner do with such a demolition site? Well, I built a wooden frame over the lot, covered it with shade-cloth, and set about learning a thing or two about plants in general.

My thoughts drifted to the old dairy farm where I was born in that most beautiful of all regions, Kangaroo Valley, 180 km south of Sydney. Down beside the stone steps that led from the verandah to the wood heap (source of all heating, cooking and hot water) there was a great lump of a plant that my mother referred to as the "Rock Lily". Not far from the house there was a monolith of a boulder that also had rock lilies covering it. So I went off to the farm to get some of these lily things for my own "castle". After all . . . if they were good enough for mum . . . they'd be OK for me too. That's how I've ended up sitting at this keyboard right now.

Now forward we jump to 2006. And in the space of a month or so there have been published two very significant works dealing with Rock Lilies. To be precise, the question is what we should be calling this most beautiful native orchid of all, *Dendrobium speciosum*. The new publication "A Complete Guide to the Native Orchids of Australia" by David Jones hit the bookshops in August. This is a large and very well presented hard cover text that every grower should have. In this work, "Rock Lilies" are blown to pieces and divided up into eleven individual species. The other work is by Peter Adams, Sheryl Lawson and Jacinta Burke and originally published in the scientific journal "Telopea". A simplified version appeared in the September 2006 issue of *The Orchadian*. In this, "Rock Lilies" are given the status of "varieties" of *D. speciosum* and nine varieties are put forward for consideration. Jones had previously removed the whole *D. speciosum* complex into a new genus: *"Thelychiton"*. Adams retains the *Dendrobium* genus. The question that confronts us "Wally the Grower" hobbyists is what on earth are we going to call "Rock Lilies" now?

My main intention with leaping into print at this point is to just give a bit of an airing to the pros and cons of each work. For many years now numerous orchidaceous people have put arguments forward with regularity, offering opinions on the ranking of the members of the *D. speciosum* complex. I'm not going to bore everyone with a re-hash of past perspectives. I am going to give a few thoughts for consideration by the average grower who has a few pots of "Rock Lilies" in the bush house.

So what qualifies me to speak about it? I suppose nothing more than the experience that I have as a hobby grower of 30 years. It has also been my good fortune to have seen every species\variety of *D. speciosum* growing in the wild. As well, there must be around 250 adult plants up in my bush house, plus a heap of seedlings still to come. Also, as an ANOS judge, I've been judging *D. speciosum* for the past 18 years and this activity certainly sharpens the senses to the little quirks and oddities that form the different entities within the *D. speciosum* complex. I'm not getting too involved in the species versus sub-species versus variety thing at this point of the story. There will be more on this later.



The unusual growth habit of *Thelychiton biconvexus* (Jones) or *Dendrobium speciosum* var. *boreale* (Adams).

Photos Gerry Walsh

Basically Jones and Adams agree that there are certainly more members in the complex than the usually accepted six. Every reader should be familiar with that six. Here they are anyway from south to north: var. *speciosum*, var. *hillii*, var. *grandiflorum*, var. *capricornicum*, var. *curvicaule* and var. *pedunculatum*.

Jones purports that there are another five qualifiers for separation. Adams is more cautious and suggests that there are only three candidates requiring further separation. The main thing is that each man agrees on three of these in a general sense . . . even though they assign different rank and names to them.

From south to north again, Jones gives the name of *Thelychiton epiphyticus* to tall skinny plants growing in rainforest trees, and sometimes on rocks, from Robertson to Cambewarra Mountain. This encompasses the country behind Kiama through to Nowra in NSW, a distance of perhaps 20 km. I have plants in my bush house that must fit into *T. epiphyticus*. They came from huge cedar trees in two cases and a giant stinging tree in another. But after 15 years in cultivation they are not tall and not near as skinny as they use to be. None flowered this season unfortunately. This year I deliberately visited a spot where large clumps of *"epiphyticus"* are growing nicely. I was looking for evidence of a new "variety". They were flowering their heads off with lovely light yellow blooms. Their pseudobulbs are certainly long and skinny. Unfortunately I could not obtain any flowers for scrutiny.

My observations are insufficient to form a firm conclusion but one thing worries me. I doubt if there are more than a couple of hundred plants that could fall into the category of *"epiphyticus"* and 70% of these would be from the Minnamurra River catchment. This is an exceedingly rugged region with the best surviving sub-tropical rainforest in the Illawarra. But it is not more than one square km in extent. The other 30% are scattered across numerous gullies throughout Kangaroo Valley and the ranges that separate it from the coast. I would guess that only a dozen or so clumps are present in most gullies thereof. There are only three creeks of any significance apart from Minnamurra on the coast side. These are Macquarie Rivulet, Broughton Mill and Broughton Creeks. I have only visited these a couple of times and did not see any *D. speciosum* in them. This doesn't mean that there is none present of course. But I'm sure I would have noticed them if they were of reasonable occurrence.

There are however many very shaded cliffs and boulders where the sun rarely shines. Often there are extensive clumps of poorly looking *D. speciosum* that would fit into the description of "*epiphyticus*", to be seen. Years ago many of these rocks sat on the edges of open paddocks. As the farms were abandoned the bush reclaimed them. Fat speciosums have changed to "*epiphyticus*" looking speciosums in 20 or so years. I use this example to show how the mere addition of shade can have a huge effect on the appearance of *D. speciosum*. Until some flowers are seen, the jury will remain suspended on "*epiphyticus*".

I just have to wonder if a whole species, in this case *T. epiphyticus*, can sustain itself and exist with what I believe to be no more than a handful of plants, in a global sense. Can it avoid cross pollination with the vast amount of *D. speciosum* that grows all around and amongst it? It bears remembering that a species of anything has to be capable of avoiding cross breeding. That's why gorillas and chimps, orang-utans and humans, wattle trees and gum trees, etc. etc, cannot interbreed. A species has to be capable of passing on inheritable characteristics to its offspring. This allows it to exist.

In instances where species can cross breed, the parents must be highly similar. Dogs, for example, can all breed with each other, as can cattle, horses, humans etc, but these you may argue are only "kinds" of a single species. All the members of *D. speciosum* will cross with each other creating that show bench section "intervarietal" for things like *speciosum, tetragonum, bigibbum*, etc. Does this make you wonder if *D. speciosum* is a collection of varieties of the same singular species? Perhaps you may think that they are all separate species. But what is your definition of a species again?

Now, what about the three plants in my bush house from Kangaroo Valley having their origins in trees? Perhaps they are var. *speciosum* plants that only look like "*epiphyticus*". Maybe they just seized the opportunity to utilise an available ecological niche. Perhaps they are just *var. speciosum* that happened to germinate in trees many years ago and grew up to be skinny. I only know that after 15 years in my care they resemble typical var. *speciosum*.

Adams' research makes no distinction among plants from the Illawarra region and he groups them all as var. *speciosum*. The possibility of him not having identified plants with arboreal origins is quite likely however.

Moving northwards, Jones and Adams believe that plants from Carnarvon Gorge and Blackdown Tableland are distinct from the coastal forms of var. *capricornicum*. All three are found about the Tropic of Capricorn. Jones assigns the plants from Carnarvon and Blackdown to the same species and names it as *Thelychiton coriaceus*. Adams splits them into two varieties of *D. speciosum*; var. *carnarvonense* and var. *blackdownense*.

Now, with no particular bias, here's my amateur opinion. For a good few years I have considered the Carnarvon and Blackdown forms as totally dissimilar and for the life of me I can't understand just what Jones sees that could link them in the same "species". This year I flowered over twenty clones from Blackdown and four from Carnarvon and went out of my way to note any differences or similarities. I've studied plants from these locations for 12 years now. I'm afraid it's chalk and cheese. Unfortunately Jones gives no evidence or arguments in support of his action. My observations support the reasoning and conclusions of Adams, in so far as there are two separate identities involved. I reiterate again that I have no reason to show bias towards either gentleman's conclusions. The aspect that pleases me is that both think there's a need to recognise "it" or "them" as different to the norm.

Moving north yet again, we arrive at Eungella near Mackay. Adams retains the name of "curvicaule" at variety level but he does separate it away from more northerly *D. speciosum* that was formerly lumped in with var. *curvicaule*.

Jones and Adams agree that the Eungella stuff is indeed different from all other forms. Jones has named it as *T. spectabilis* and has assigned the old name of "*curvicaule*" to plants from much further away in north Queensland. This is most puzzling and no reasoning is offered as to why the name did not remain with the Eungella plants. I don't think that any grower in Australia would consider another name for plants from Eungella other than var. *curvicaule*. It's a case of botany and horticulture coming from different planets with neither having to appease the other.

It is up around the Atherton and adjoining districts that things get a bit more involved. This is the botanical equivalent of an immigration detention centre. There is a fair amount of overlapping and inconclusiveness to contend with but I have always thought that it should be addressed. This has now happened and it's a good thing.

Everyone knows what var. *pedunculatum* looks like and both Jones and Adams maintain its sovereignty. That's the easy one to recognise and no further correspondence will be entered into. Jones recognises three extra forms (or species in this case) that more or less grow with their distributions overlapping haphazardly.

Firstly there is *T. biconvexus*. This is a very tall grower often with quite large leaves on the top of elliptic narrow bulbs. The bulbs (I get sick of typing pseudobulbs) start off very thin above a swollen "knuckle" on the old bulb and gradually swell to their thickest point which is just a few centimetres below the basal leaf, but always remain elliptic in cross section. Jones states that this is found on rocks and cliffs at Mt Windsor, Mt Amos and Mt Finnigan, all of which are north from the latitude of Mosman. I have plants that came from trees growing along the Palmerston highway, which is the most southerly road up to Ravenshoe (south end of the Atherton Tableland) and a long way south of Mt Finnigan. Mark Clements identified these as the same as the tall Mt Windsor type during a brief visit to my bush house. I agree that it is certainly a much different form to anything else. On my plants the peduncle is 50% of the raceme. My best plant has pseudobulbs 650 mm long to the first leaf.

Jones names another Atherton form as *T. rupicola* and this is what I call the common form found on rocks in north Queensland. It is not usually skinny like the other forms and is often quite thick like var. *speciosum* or var. *curvicaule* (Eungella form) when not in flower.

I observed this form growing on rocks at Tinaroo and near Koombooloomba in July 2006. All plants seen were in bud unfortunately. Tinaroo plants seem to have shorter peduncles than other locations around the tableland. Approximately one quarter to one third would seem normal for Tinaroo plants that I've seen.

I believe this is the most commonly seen form to the south of Atherton, down as far as west of Townsville, some 300 km distant. I have no experience with any of this country unfortunately and cannot give any opinions. I don't even have representatives in my collection from this large area but this is something I hope to address in the near future.

The last "species" that Jones has named is *T. curvicaulis*. This is not the well-known var. *curvicaule* from Eungella near Mackay. *T. curvicaulis*, from what I can deduce, is the name for the form that I have seen on Mt Lewis and near Tully Falls. It has quite thin bulbs that tend to curve readily. The Tully Falls plants I noted were inclined to have aerial growths as well. This is very uncommon in other varieties of *D. speciosum*.

To be honest, the plants always look sickly to me. When I first encountered this form in July 1994 I thought I had found var. *pedunculatum*. They were growing on rocks in nearly full sun but only a few metres from heavy rainforest. They were in advanced bud from bulbs only 150 mm (six inches) long and as skinny as my thumb but almost untapered from top to bottom. There were around a dozen plants in this colony.

Plants seen on Mt Lewis growing in good shade on trees and even on roadside embankments in moss-covered clay are possibly this *T. curvicaulis* as well, but none of these were flowering, or even in bud, when I was visiting.

Tully Falls plants that I have flowered are at least 50% peduncle. The flowers from half a dozen different plants are all white. One of these is a very nice horticultural specimen and I have given it the clonal name of "Tully White". In cultivation they tend to grow into slightly thicker and taller looking plants but still appear stunted when compared to other forms from the Atherton, excepting var. *pedunculatum* of course.

Adams has adopted a very different approach to Jones with this patchwork of *D. speciosum* on Atherton. He has named all the Jones forms i.e. *T. biconvexus*, *T. rupicola* and *T. curvicaulis*, (excepting var. *pedunculatum)*, as var. *boreale*, which means "north or northern". His research indicates that there is no particular grouping of any form in any particular location. His results indicate a big range of physical features ranging from plants that flower from quite short bulbs to very tall bulbed plants.

My own thoughts on Atherton plants are firm and were formed long before the current research was published. Basically I can see that there are at least three variations to be found among the *D. speciosum* of the north. The tall lanky one that Jones calls *T. biconvexus* is a standout vegetatively speaking but is the form least likely to be encountered by hobbyist growers. *T. rupicola* is also a fairly obvious form so long as you are looking at plants that originated from rocks in bright sunny locations. It is when plants are subjected to high levels of shade that they start growing spindly and looking for all the world like *T. curvicaulis*. They stop flowering as often as they would in the sunlight as well. These are the two "species" that are most likely to be confused if you apply the Jones scenario.

As everyone knows, the really strong evidence for species identification in plants is found in the flowers, not the vegetative differences that can be influenced by many environmental conditions. Jones does cite some differences in flower structure between his three species. On the other hand, Adams applies mathematical analyses to the whole plant as well as the flowers. The results obtained indicate a single variable species.

The big thing that both Jones and Adams agree on is that all of the forms from north Queensland are clearly different to anything existing south of the dry zone, that starts just south of Townsville. In this region extending some 200 km, ending around Proserpine, there are very few, if any, plants of *D. speciosum* to be seen due to the harsh, unsuitable habitat.

Adams' evidence is extensive and thorough. It has also been carried out over a long period of time and with a large number of plants. There is a scientific approach that the average hobby grower will need to take time and patience to digest. The effort is well worth it however and once Adams' stance is understood the results are compelling.

I'm afraid I'm no fence sitter so I'll have to put my hand up for either the Jones or the Adams approach to the northern plants. I can certainly identify more than a single species/variety present in the region and so long as I'm looking at a plant with a raceme then I reckon I can assign it to its correct name or type or whatever. However, if you sit me down with a bucket full of flowers, plucked from plants from all over the place, then I'm likely to get them all wrong. This is because without the plants and the whole raceme with them, the flowers are too similar to separate with tolerable success, even for a botanist. It is for this reason of similarity in the flowers, and not the differences, that my approach to the whole business has been, and shall remain, "variety" . . . variety within the one species. I'd be willing to consider the level of "sub-species" if someone would take the time to present the arguments to me.

But it's been "variety" since Fitzgerald, Bailey, Hunt, Rupp, Dockrill etc. were knocking around in short pants. The difference between variety and sub-species, to my amateur way of thinking, is just one of pedantic squabbling. Its way up there with getting rid of your old dog or changing your country's flag for the sake of having something new.

On the other hand, I see little resemblance between many members within the world's *Dendrobium* genus. The decision by Jones and Clements to remove *D. speciosum* from *Dendrobium* to its own genus, in this case *Thelychiton*, is not hard for me to understand or accept. The same action has befallen nearly every Australian member of the *Dendrobium* genus, with *D. stuartii* remaining the only *Dendrobium* occurring in Australia. Conversely, I haven't seen or read any arguments or debates supporting the notion of eleven species of "rock lilies" in the Australian bush. Maybe something has been published in a scientific journal somewhere in the world . . . but I haven't seen anything.

Hopefully we will be able to read an in depth synopsis on the subject . . . in *The Orchadian* . . . and the sooner the better. *D. speciosum* is just about Australia's favourite native orchid and there is a hell of a lot of people out there who care greatly about it. Maybe the new names are justifiable but until explanations are forthcoming no one is likely to accept them.

I don't know if I've made any sense with what I've waffled on with but I feel better that I've gotten it off my chest. Also, in no way was it intended to be any sort of definitive statement. After all, when two scientists like Adams and Jones can't come to the same conclusion, then the task is certainly a complex one.

Anyway . . . I'm off to the bush house to water my rock lilies. I'll see you later.

-oOo-

Speculantha vernalis (Orchidaceae), A critically endangered new species from south-eastern New South Wales.

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a230472

Abstract

Speculantha vernalis, a critically endangered species from the Nowra region in south-eastern New South Wales is described as new.

Key Words

Speculantha vernalis, new species, critically endangered, Nowra region, New South Wales, Australia.

Introduction

The genus *Speculantha* was recently segregated from *Pterostylis* (Jones & Clements 2002) with the following distinguishing characteristics:- dimorphic sterile and fertile plants; rosette leaves on fertile plants arising on a lateral shoot at the base of a flowering scape; multiflowered raceme; small flowers that face inwards towards the scape; erect synsepalum with short, basically triangular free points that barely extend above the top of the galea; and, a semen-like floral odour which is generally detectable during the day, sometimes prominently so.

Speculantha consists of about 23 species, most currently undescribed, but a revisionary treatment has been prepared. In this paper a distinctive spring-flowering species from the vicinity of Nowra in south-eastern New South Wales is described as new. As this species has a very restricted distribution and the remaining populations are severely threatened by continued urbanisation and proposed development projects, it is described here separately from the other new taxa in the hope that this action will aid with its conservation.

Taxonomy

Speculantha vernalis D.L.Jones, ***sp. nov***.; affinis *S. parviflorae* (R.Br.) D.L.Jones & M.A.Clem., sed florescentia vernali; foliis rosulis antea caulibus florescentiis apparentibus; floribus majoribus; apice galeam fusco vel nigricanti; sepalo dorsali et petalis scabris; labello elliptico vel obovato, brunneo et albo, differt.

Type: New South Wales. West of Flat Rock Creek Reservoir, south of Nowra, 16 Oct. 1998, *D.L.Jones 15873 & K.J.Fitzgerald* (holo CANB; iso BRI, MEL, NSW).

Illustration: Plate 240, Bishop (1996), as. *Pterostylis* sp. aff. *parviflora* (Spring).

Description: Tuberous terrestrial *herb*. *Plants* 10-20 cm tall, not elongating in fruit. *Rosettes* 1-2, usually present at anthesis, terminating the parent tuber or on sterile plants. *Rosette leaves* 3-7, spreading; lamina ovate, 5-15 mm long, 4-10 mm wide, dark green; margins entire; apex acute; petioles slender, 3-12 mm long, narrowly winged, widening distally. *Scape* slender, wiry, 1-4-flowered. *Sterile bracts* 2-4, closely sheathing, ovate lanceolate, 6-10 mm long, 2-3 mm wide, acuminate. *Floral bracts* similar, sheathing the pedicel and ovary base. *Pedicels* 1-9 mm long, thin. *Flowers* moderately spaced, facing inwards, 1-3 open at once, 8-10 mm long, 4-4.5 mm wide, bulbous, green proximally with a prominent white patch towards the base of the galea, dark brown to blackish distally; galea slightly inflated at the base, erect before curving forwards in a semicircle; dorsal sepal slightly longer than the petals, the distal parts of the dorsal sepal and petals strongly scabrous. *Dorsal sepal* ovate-lanceolate when flattened, 12-15 mm long, 6-9 mm wide, inflated at the base then tapered distally, boldly striped, acute to apiculate, dorsal surface scabrous. *Lateral sepals* erect, closely embracing the galea; sinus step-like at the top, the area bulbous when viewed from the side, shallowly notched medially when viewed from the front; frontal opening 3-3.5 mm wide; conjoined part 6.5-7.5 mm long, c. 5-6 mm wide, narrowed to c. 2.5 mm across at the base, prominently striped; free points c. 3.5 mm long, tapered, acuminate, curved forwards, the tips just reaching the top of the galea. *Petals* oblong, 9-11 mm long, c. 3 mm wide, strongly falcate, white with brown stripes and markings, subacute; flange c. 1 mm across, broadly deltate, obtuse. *Labellum* erect, not visible through the sinus in any position, straight or slightly curved forwards near the apex, white with a brown medial stripe and brown margins. *Labellum lamina* elliptical to obovate, 3-4 mm long, 1.5-1.7 mm wide, obtuse to truncate; basal appendage decurved, c. 0.8 mm long, broadest at the base; apex erect, trifid. *Callus* a raised central reddish ridge c. 0.3 mm across. *Column* 4-5 mm long, curved away from the ovary at c. 60° at the base then erect, green and white. *Column wings* c. 1.3 mm long; basal lobe broadly deltate, c. 0.5 mm long, white, at an angle of c. 45°; apex broadly obtuse; inner margins adorned sparsely with short white cilia; mid-section c. 0.6 mm long, dark green; apical lobe narrowly linear, c. 0.7 mm long, acute. *Anther* c. 0.8 mm long, obtuse. *Pollinia* narrowly linear, c. 1.3 mm long, yellow, mealy. *Stigma* situated medially, broadly scutiform, c. 1.8 mm long, c. 1.5 mm wide, raised. *Capsules* erect, narrowly obovoid, 10-13 mm long, 4-5 mm wide, on pedicels to 10 mm long. **Fig. 1**.

Distribution and Ecology

Endemic to southern New South Wales where known from 5 separate sites in the Nowra district. It grows in heath and heathy forest developed on sandstone. The plants commonly grow in open sites, often on the margins of sandstone outcrops or in shallow soil in rock fissures or over rock plates, less commonly in moss under tall shrubs. Soils are acidic grey sand and sandy clay loam. Alt. 10-50 m. Flowering: August to October.

Recognition

Characterised by spring flowering period; rosettes appearing before anthesis; dark green rosette leaves (to 15 x 10 mm); sheathing sterile bracts; 1-4-flowered inflorescence; moderately spaced, bulbous flowers, 8-10 x 4-4.5 mm, green basally, dark brown to blackish towards the apex and with a prominent white area towards the base of the dorsal sepal; scabrous dorsal sepal and petals; sinus stepped inwards, shallowly Vee-ed when viewed from the front, the area below bulging when viewed from the side; sharply tapered free points just reaching the top of the galea; and, an elliptical to obovate brown and white labellum, 3-4 x 1.5-1.7 mm, the tip not visible from the exterior in any position.

Similar Species

Four species of *Speculantha* are found in the vicinity of Nowra, however *S. vernalis* is the only species that flowers in spring, the others flower in autumn or early winter. Florally *S. vernalis* is distinguished by relatively large flowers (for the genus) which are basally green, dark brown to blackish towards the apex and with a conspicuous white lateral area at the base of the dorsal sepal. The front of the flower bulges prominently and the top of the dorsal sepal and petals is distinctly scabrous. The labellum is not visible from the exterior of the flower. *Speculantha parviflora*, the only other named species of *Speculantha* in the Nowra area, can be readily distinguished from *S. vernalis*, by its autumn-winter flowering and narrow, green and white flowers with the labellum tip just visible through the sinus.

Notes

In this species the rosettes emerge first and the inflorescences develop later, which is the reverse order to all other species of *Speculantha*. The rosettes actually terminate the parent (old) tuber and the inflorescence emerges from the top of the replacement (new) tuber, while both tubers are still connected. In all other species of *Speculantha* the rosette arises after flowering and is borne on a lateral growth from the base of the floral scape.

Flowering of this species may be enhanced by summer fires. Certainly the plants are easier to find in the year or two after a fire. Because this species grows in shallow sandy soils, flowering is greatly influenced by soil moisture levels and in seasons with a dry autumn/winter the plants generally die back to the tubers without flowering.

Speculantha vernalis is only known from the vicinity of Nowra and is unlikely to be located elsewhere since it has been the subject of several searches in adjacent areas (Ron Tunstall pers. comm., Alan Stephenson pers. comm.). A collection that is possibly this species from West Nowra (21 Sept. 1958, *L.I.Cady 418* (AD), is worth pursuing in light of the rarity of the taxon.

This species has also been known as *Pterostylis* sp. aff. *parviflora* (Spring) (Bishop 1996).

Conservation Status

Speculantha vernalis is known from 5 extant populations in the vicinity of Nowra totalling 450-500 plants. It is conserved at a single site in Jerrawangala National Park where an estimated 20 plants were seen by the author in 1990, but searching by Dean Rouse in 2005 failed to locate any plants. The major population, which totals about 300 plants, is on a site that will be impacted by future urban development and the second largest population is on the proposed site of a major power facility. The other populations of the species are very small and occur close to urban areas. In light of the development that is proposed for the region, the species faces the very real prospect of becoming extinct in the near future and for this reason I suggest a conservation coding of Critically Endangered (IUCN 2000). The species has also been nominated for listing under the EPBC Act by Dean Rouse and the author.

Etymology

The Latin *vernalis*, vernal, spring, in reference to its spring flowering period, which is unique in the genus.

Other specimens: NEW SOUTH WALES: Flatrock Creek, Nowra, 4 Oct. 1998, *M.A.Clements 9724* (CANB); Tomerong Road, Nowra, 19 July 1986, *R.Tunstall* (CANB); Flatrock Creek, Nowra, 22 Sept. 1986, *R.Tunstall* (CANB); *ibid*, 9 Sept. 1992, *R.Tunstall (D.L.Jones 9994)* (CANB); *ibid*, 18 Sept. 2005, *D.T.Rouse 251* (CANB).

Acknowledgements

I thank the late Ron Tunstall for bringing this species to my attention, Dean Rouse, Sandie Jones, Mark Clements and Alan Stephenson for discussions about distribution, conservation status and threatening processes, Karina Richards, Marion Garratt and Emma Clifton for technical assistance and Laurie Adams for the Latin diagnosis.

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Bishop, A. (1996). *Field Guide to the Orchids of New South Wales and Victoria*. University of New South Wales Press, Sydney, New South Wales.

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Jones, D.L. & Clements, M.A. (2002). A review of *Pterostylis* (Orchidaceae). *Australian Orchid Research* 4: 1-168.

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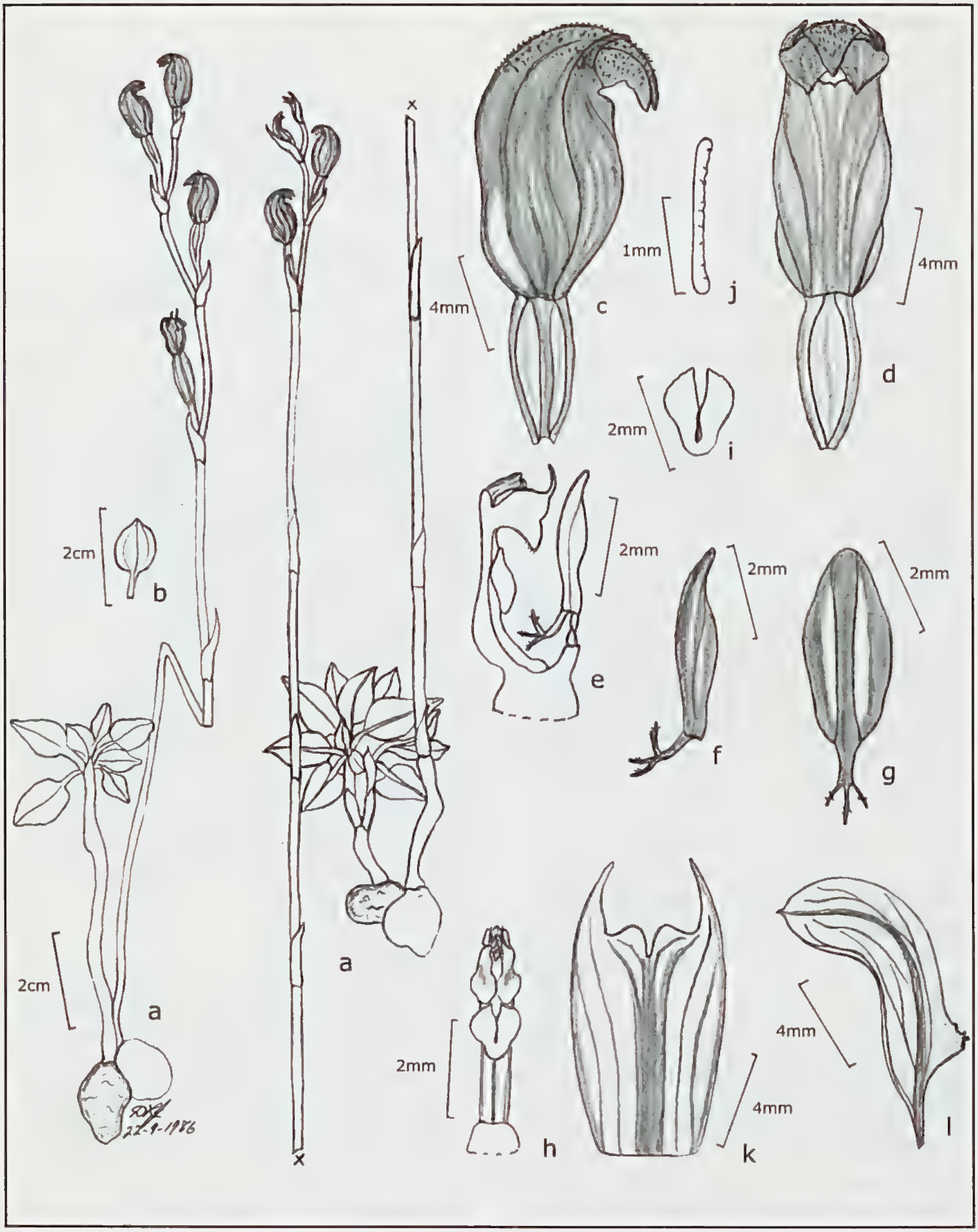
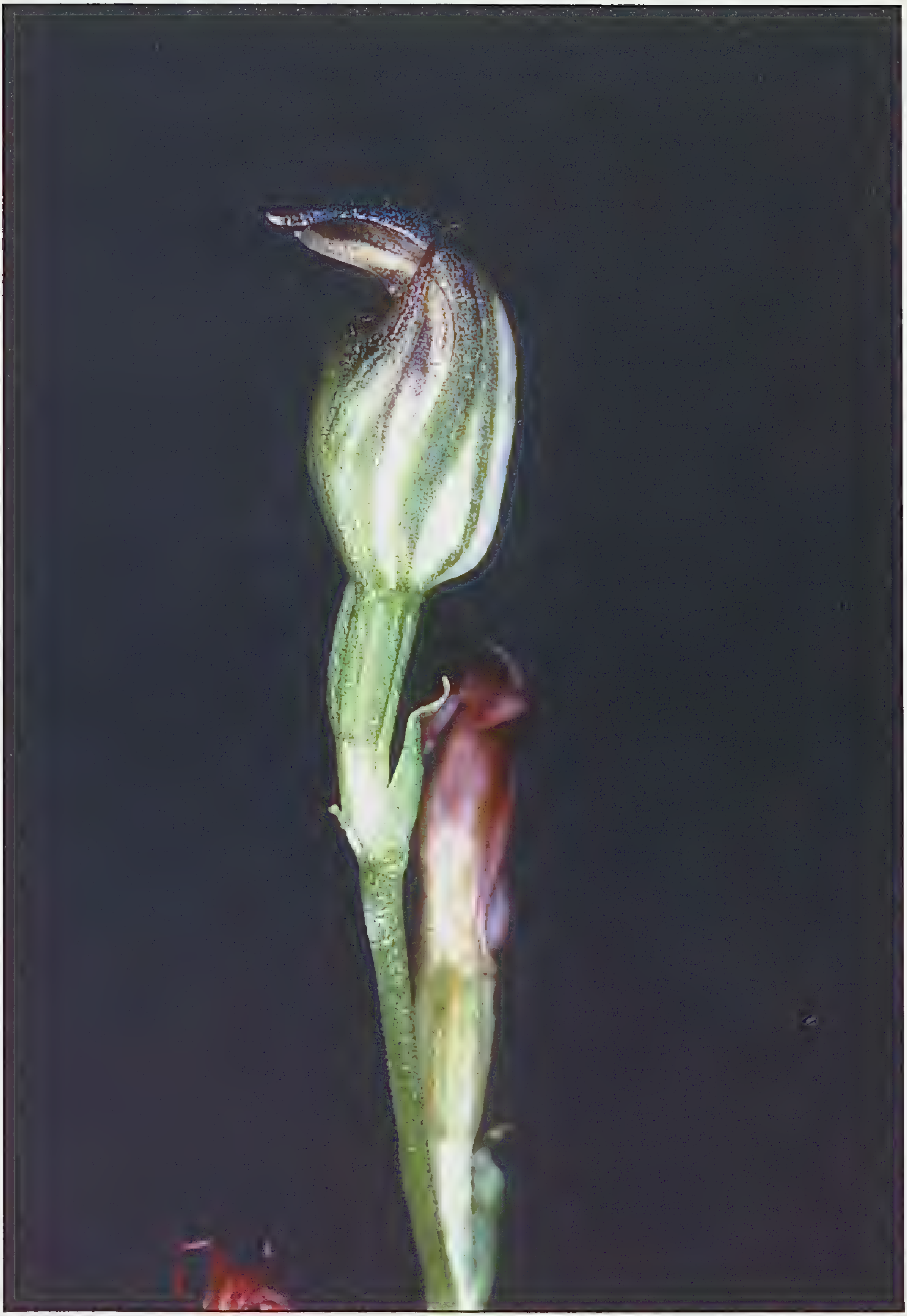


Figure Caption

Fig. 1. *Speculantha vernalis*, Flat Rock Creek, Nowra, R.Tunstall. a. flowering plants; b. rosette leaf; c. flower from side; d. flower from front; e. column and labellum from side; f. labellum from side; g. labellum from above, flattened; h. column from front; i. stigma; j. pollinium; k. synsepalum; l. petal.



Speculantha vernalis, Tomerong, New South Wales. Photo Mark Clements

Book Review

Helen Wild
56 Civic Parade
Seaholme VIC 3018

Flora of the Otway Plain and Ranges 1.

Author: Enid Mayfield, BA, Dip T.
Size: 232 pp. 23cm x 17cm. Soft cover.
Published in 2006 by Linton Press, Australia.
ISBN 0-9775712-0-3
Available from Linton Press,
Geelong Botanic Gardens,
PO Box 3104, Geelong, Vic. 3220.
AUD $45.00
Postage within Australia (up to 4 copies) $8.50.

My first impression on opening this publication was that it contains a vast amount of information - far more than is normally found in a field guide. In actual fact, the Flora of the Otway Plain and Ranges 1 is as much a flora as a field guide. This volume contains orchids (at over 130 species this is by far the largest family covered), irises, lilies, grass-trees, mat-rushes and other petaloid monocotyledons, many of them rare, threatened and endangered in the Otways.

Location maps inside the front cover pinpoint the area covered then, following the usual contents, acknowledgements and foreword, there is a Quick Plant Finder on page 1. This section lists the common name, scientific name and family name of each species, thus accommodating the amateur field tripper as well as the more scientifically inclined.

Moving on to page 6, the author has included a pictorial Key (What Flower is This?), a visual aid to identification by plant colour and family. This is followed by a section that shows the characteristics of plants within their respective families.

In the main body of the guide, each species has been allocated (in most cases) a full page and is easy to find because it has been listed alphabetically within its plant family. All the information about each species is laid out in a clear, precise and logical manner. Information includes the scientific name, common name(s) and the distribution of the species. It also includes such information as descriptions of the plant's leaf, flower stem, flowers and an aid to recognition. There are crisp, clear colour illustrations of each plant and, where appropriate, dissections of the flower and/or enlargements of plant parts. The habitat, habit, status and flowering times of each species is presented at the bottom of the page, and also indicates whether the species is found on the Otway Plain and/or the Otway Ranges.

At the beginning of the section on orchids, one page explains the characteristics of orchids and two pages tell the reader how orchids survive. The latter two pages discuss pollination, cross-pollination, self-pollination, apomixis, attracting pollinators, deciduous orchids and tubers, pedicel elongation, fungi and seed, hemiparasitism and fire. Additional information for the orchids includes descriptions of the dorsal sepal, lateral sepals, petals, labellum, column and similar orchid species. In some instances the orchid's pollinator is also illustrated or discussed. Mayfield has included a double page spread of Thelymitra flowers and their columns, because columns are used as an aid to distinguish one similar species from another.

There is also an illustrated glossary, a bibliography and an index at the back of the book.

During the research and preparation of this comprehensive field guide, Mayfield consulted taxonomic botanists at the Royal Botanic Gardens Melbourne, thus the nomenclature in this publication is that currently accepted by the RBG Melbourne.

The author is an Illustrative Researcher based at the Geelong Botanic Gardens and is an Honorary Associate of the Royal Botanic Gardens Melbourne. Mayfield's illustrations have appeared in many scientific publications and her work is held in the state botanical art collection. As is to be expected of an artist of this calibre, the illustrations in the Flora of the Otway Plain and Ranges are precise and visually superb. A charming touch is the inclusion of an attractive bookmark.

Although this book is too large and too heavy to fit into a pocket, it would fit comfortably into a backpack or the glove box in your car. The standard of this book is far higher than that of any other field guide I have seen to date, and I can highly recommend it to everyone with an interest in the wonderful flora of the Otways. The Flora of the Otway Plain and Ranges is an absolute must inclusion in the libraries of special interest groups, environmentalists, students, naturalists, landowners, botanical artists, tourists and others wishing to learn more about the flora of the area.

This book is the first of two volumes. I believe the second volume (on herbaceous and shrubby dicotyledons) is well underway and will be published later.

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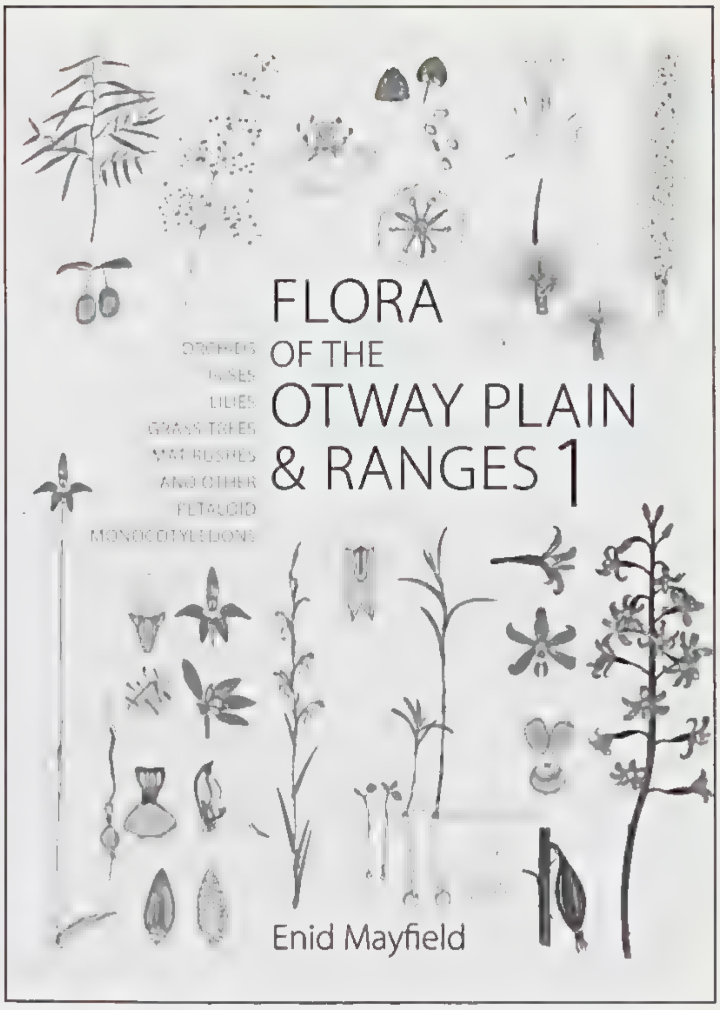

Kempsey Speciosum Spectacular and Native Orchid Show Report 2006.

John Zietsch
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For the past five years ANOS Mid North Coast Group has been pleased to assist Ted Walmsley in conducting the Kempsey Speciosum Spectacular and Native Species Show. Over that time we have attempted to put together a programme that allows visitors to view some of the best *Dendrobium speciosum* on the planet and also to enjoy a weekend living native orchids whether on field trips or talking to top breeders and growers from around the country.

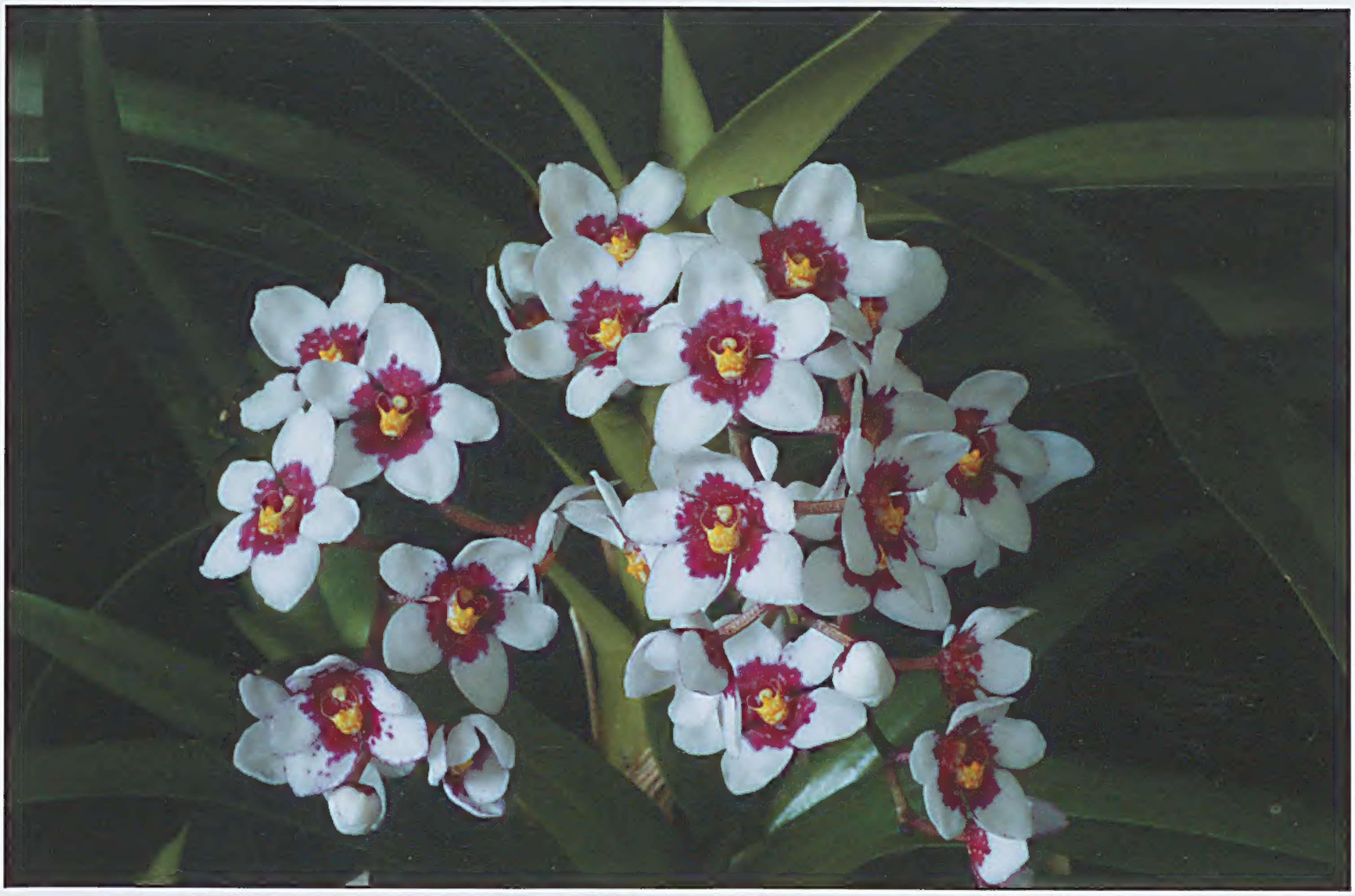
This year the programme began with a welcome BBQ and our monthly meeting on Friday, 1st September. We were fortunate to have Harry Klose, who was one of the first to begin line breeding *D. speciosum*, as a guest speaker. Harry spoke of the distribution of the different varieties and the origins of clones, including Little John, Kath, Ermine and Cathu that were used in the early breeding programmes. It was wonderful to meet Harry and be able to gain an insight into those early days.

Our second guest speaker, Bill Dobson, prepared a slide presentation that highlighted the habitat, distribution and features of *D. speciosum* var. *pedunculatum* and the Blackdown Tableland form. A great night was had by all as they met native orchid growers from as far away as Melbourne and the Mornington Peninsula to Brisbane and southern Queensland.

The first field trip of the weekend left at 9am Saturday morning and was led by David Rideout and John Riley. While John's

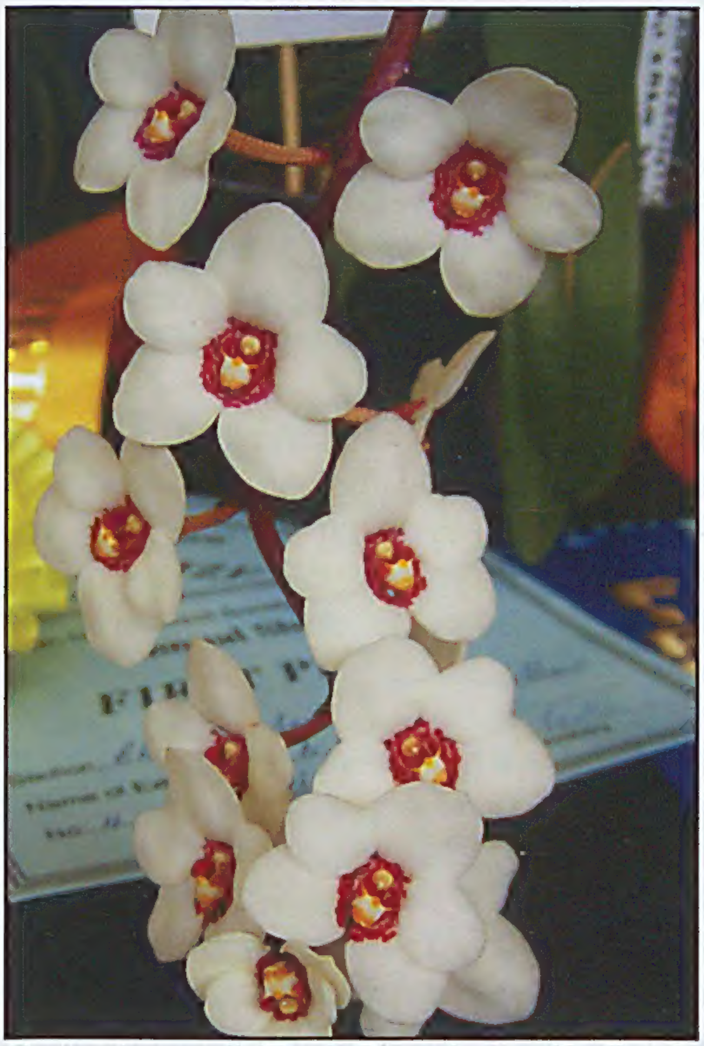
Display bench at the Speciosum Spectacular Kempsey, 2006. Photo Bill Dobson

Display bench Kabi Group Spring Show 2006. Photo Eddie Boudette

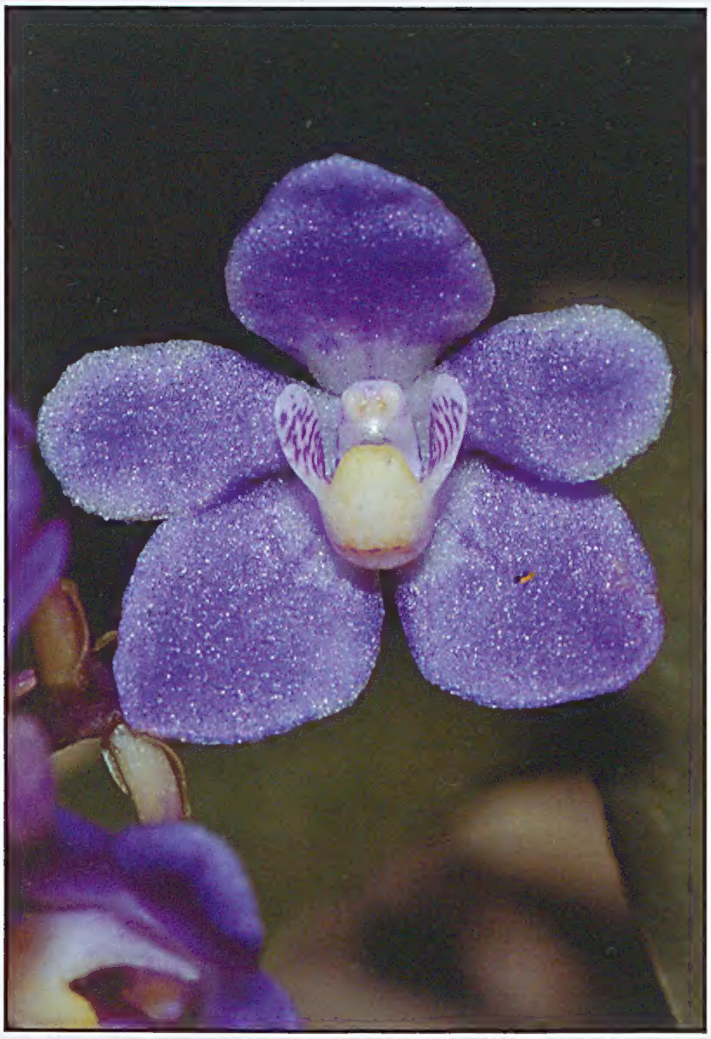


Sarcochilus Fitzhart 'Redblock'. Grower D Butler.

Photos above and bottom right
Bill Dobson



S. hartmannii 'Red Snow' x self. Geelong Sarcochilus Show. Photo Frances Wilde.



Sarochilus Wilde Rose. Sydney Sarcochilus Show. Grower B Gerhard.

ability to find terrestrials is legendary, this was not one of those trips where there was an abundance of discoveries. Plants found included *Pterostylis oblonga* and *Cymbidium suave*. However those attending were rewarded with a great morning out in the bush with the eternal hope of finding something new.

Saturday morning had dawned a beautiful day and as the temperature warmed the perfume spread and some of the best speciosums you could ever wish to see opened their faces for the world to see. Fifteen judges from ANOS New South Wales and Queensland began the unenviable task of choosing the best from over 300 plants in 11 classes of *Dendrobium speciosum* and 5 classes for other species. Four classes were devoted to over 60 first flowering *D. speciosum* seedlings.

Prizes and trophies were presented at an enjoyable social evening at the Fountain on the Mountain on Saturday night. Champion of the show was D. *speciosum* var. *curvicaule* 'Palmerston Mist Ted' owned and bred by Ted and Winsome Walmsley from a crossing of Palmerston and Misty Mountain. The champion seedling, owned and bred by Tony Blewitt, was an intervarietal cross of *D. speciosum* var. *speciosum* 'Windermere' and *D. speciosum* var. *curvicaule* 'Palmerston'. Such was the quality of these plants that both were awarded AM ANOS. Another plant owned by Ted & Winsome Walmsley, *D. speciosum* var. *curvicaule* 'Blake' was also awarded an AM ANOS while two plants from intervarietal crosses, *D. speciosum* var. *speciosum* 'Windermere' x D. speciosum var. *curvicaule* 'Daylight Moon' and D. speciosum var. *speciosum* 'Windermere' x *D. speciosum* var. *curvicaule* 'Misty Mountain' were each awarded an HCC ANOS. The champion species of the show, other than *D. speciosum* was a very floriferous *Dendrobium melaleucaphyllum* owned and grown by Sid Burton. This plant was awarded a Cultural Certificate ANOS.

Although Sunday morning came too early for some of those attending the presentations Alwyn Flanagan and David Rideout led a group on a field trip in the Comboyne area. This was a much more productive trip than the previous day with finds including *Dendrobium kingianum*, *D. speciosum* var. hillii, D. *gracilicaule*, *D. aemulum*, *Bulbophyllum exiguum*, *Liparis reflexa*, *L. coelogynoides*, *Cymbidium suave*, *Sarcochilus falcatus*, *Dockrillia pugioniformis* and *Thelymitra fragrans*.

If this wasn't enough to fill in a weekend a group including Murray Harding, Di Lester, Eddie Hall-Smith, Jim Loren, Phil Ritchie, Vin Hurley and Harry Klose headed off on Monday morning for the wilderness of the Petroi Plateau on the southern side of Point Lookout. Monday afternoon they explored the creeks and found numerous *Dockrillia linguiforme* and *D. teretifolia*. The following day it was off in 4WD to explore the ridges to find *Dendrobium falcorostrum*, *Dockrillia pugioniformis* and a large variety of ferns, mosses and fungi. A great weekend was had by all. For those in Victoria who find it a bit far to travel, judging by the large numbers of line bred plants taken back by growers and nursery owners you will have many fine speciosums to choose from in the near future.

Next year we hope to put together a similar programme and hopefully be able to tie it in with the Brisbane ANOS Conference so that you will be able to call in on your way north. If you are interested in next years event e-mail jzi01935@bigpond.net.au and we will forward details when they are finalised.

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AUSTRALASIAN NATIVE ORCHID SOCIETY Inc
Geelong Group
ANNUAL SHOW November 2006

Another year of surprises. The sun had been shining for months bringing the flowers out early, but our members being resilient as orchid growers have to be, found enough to make our show a delight to see. There was a shortage of Dendrobiums, the same as last year but two members managed to bring one each along, one being a *D. linguiforme* and the other a *D. fleckerii*.

Sarcochilus orchids were in profusion and the judges had a hard job picking out what was going to win. Shape and size won out in the end with a *S. hartmannii* 'Red Snow' x self (photo page 284), winning the Grand Champion prize. The grower was Don Bradshaw who also won the show with a different *S. hartmannii* two years ago. Don lives on the Bellarine Peninsula and the climate must be just right to suit these plants.

The Reserve Champion was a *S.* George Colthup owned by Lorraine Fagg. Lorraine has been worried about her growing conditions that she now has in her new home, but going by this effort I don't think she has much to worry about.

There seem to be a lot more coloured *Sarcochilus* around these days than when I started growing them, and it makes for a very pretty benching with all the mixed colours.

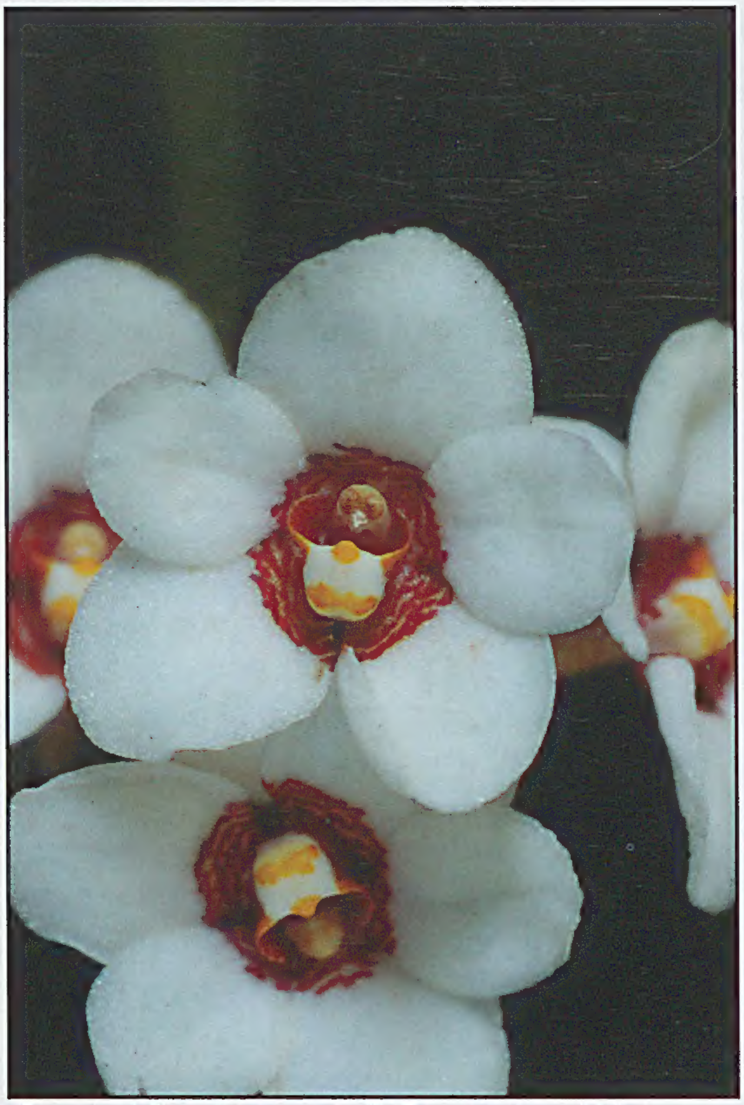
Our President Kevin Cummins always brings along his hanging garden. Kevin has grown a lot of *Rhinochilus* and *S.* Star Struck hybrids on mounts that hang down and look spectacular. Many visitors to the show were impressed by this display and say they are going to try to grow their orchids in a similar fashion. Kevin puts holes at regular intervals along a piece of plastic drainage pipe, glues a piece of shade cloth in the bottom to hold the potting media in and hangs it vertical. He then plants out small seedlings into the holes and away they go. The roots of the plants attach themselves very well to the pipe and travel up and down in all directions. It has created a great visual impact on all who see them.

This year we had more visitors through the show than ever before and we put this down to the signs we put up around the hall, which backs onto a shopping centre.

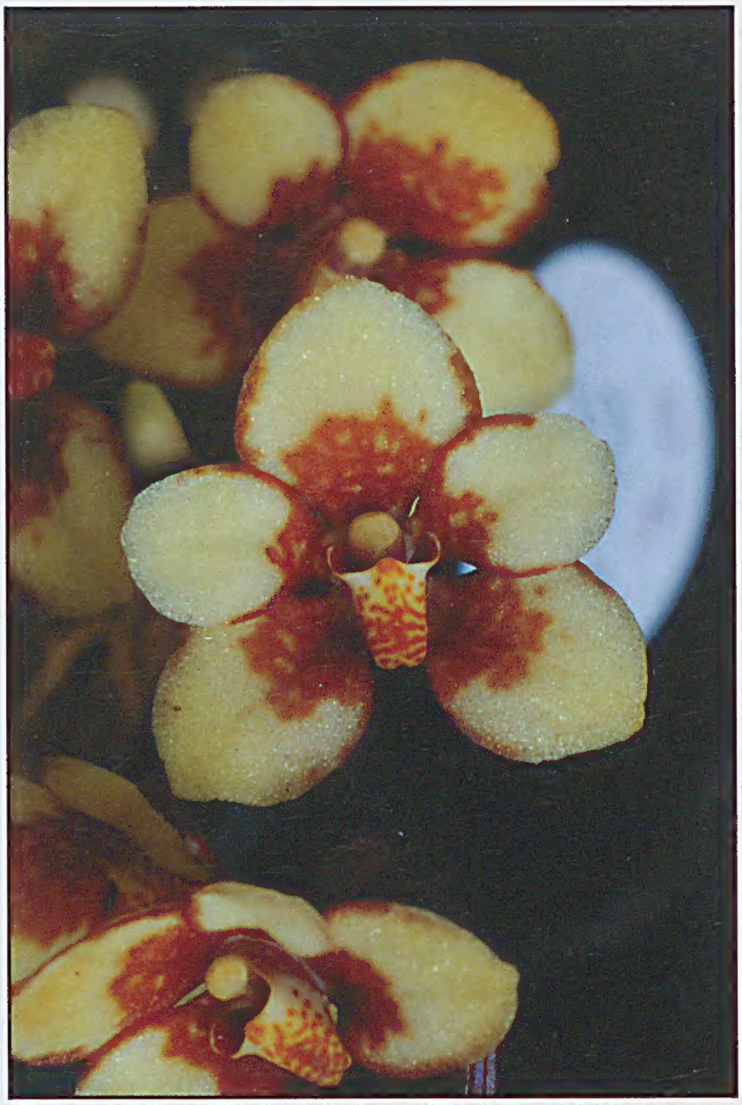
Our only disappointment was that none of our terrestrials were out for our show. Our members have spent a lot of time perfecting the growth of these orchids and over the past couple of years have brought many of their plants in to monthly meetings, but the early onrush of warm weather put an end to this as they had finished at least a month before the show.

Our Committee thanks all the members who worked so tirelessly over the weekend. The effort they all make does not go unnoticed, for it just wouldn't happen without them.

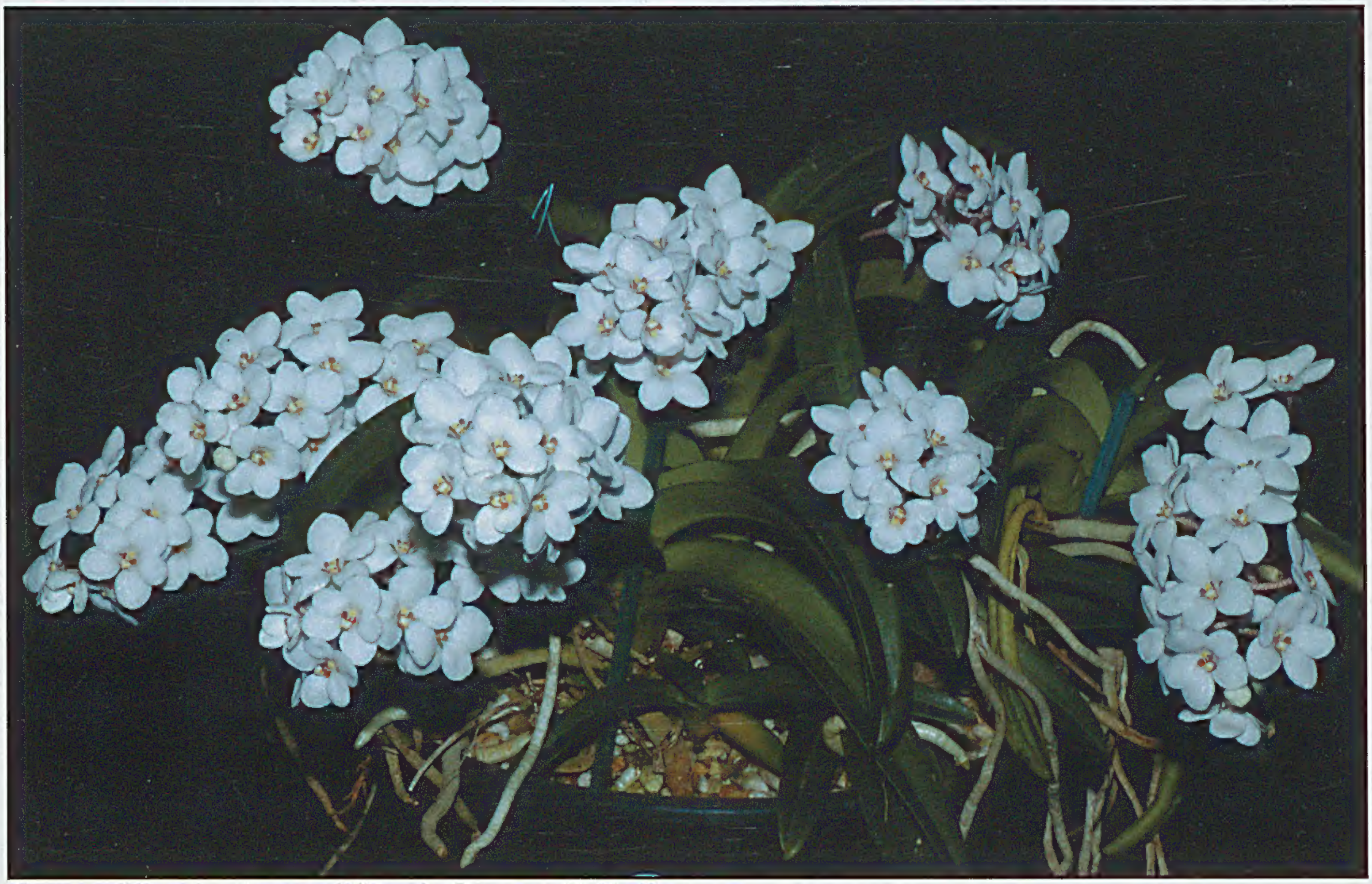
Frances Wilde



Sarcochilus hartmannii 'Snowstorm' X
S. B.S. Grower B Gerhard.



Sarcochilus Richard Jost 'Pinkflush' X
S. hartmannii 'Noelene'. Grower D Butler.



Sarcochilus hartmannii 'Bev'. Grower D Butler.
These photos taken at the Sydney Sarcochilus Show 2006.

Photos Bill Dobson